Technics

KEYBOARD

SX-KN901

ENGLISH

QQTG0337A

FOR YOUR SAFETY PLEASE READ THE FOLLOWING TEXT CAREFULLY. (for UNITED KINGDOM)

This appliance is supplied with a moulded three-pin mains plug for your safety and convenience.
A 5 amp fuse is fitted in this plug.
Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 5 amps and that it is approved by ASTA or BSI to BS1362.
Check for the ASTA mark ⓐ or the BSI mark ⓚ on the body of the fuse.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.
If you lose the fuse cover the plug must not be used until a replacement cover is obtained.
A replacement fuse cover can be purchased from your local Panasonic/Technics Dealer.

IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OF SAFELY.
THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT-OFF PLUG IS INSERTED INTO ANY 13 AMP SOCKET.

If a new plug is to be fitted please observe the wiring code as shown below.
If in any doubt please consult a qualified electrician.

IMPORTANT: —The wires in this mains lead are coloured in accordance with the following code:—

Blue: Neutral
Brown: Live

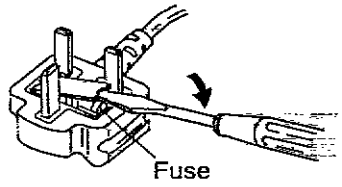
As the colours of the wires in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows.

The wire which is coloured BLUE must be connected to the terminal in the plug which is marked with the letter N or coloured BLACK.

The wire which is coloured BROWN must be connected to the terminal in the plug which is marked with the letter L or coloured RED.

Under no circumstances should either of these wires be connected to the earth terminal of the three-pin plug, marked with the letter E or the Earth Symbol ⏚.

How to replace the fuse. Open the fuse compartment with a screwdriver and replace the fuse and fuse cover.



Technics

OWNER'S MANUAL

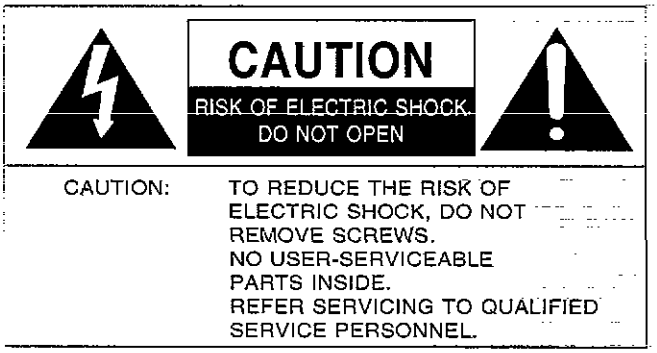
Caution

Voltage (except North America, Mexico, New Zealand and Europe)

Be sure the voltage adjuster located on the rear panel is in accordance with local voltage in your area before using this unit. Use a screwdriver to set the voltage adjuster to the local voltage.

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRICAL SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE.

BEFORE YOU PLAY, PLEASE READ THE CAUTIONARY COPY APPEARING ON PAGE 2.


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION:
TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE SCREWS.
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Before you play

For long and pleasurable use of this instrument, and to gain a thorough understanding of your KN901 Keyboard, it is strongly recommended that you read through this Owner's Manual once.

The Owner's Manual is comprised of the following parts.

BASIC FUNCTIONS	This part includes an explanation of basic procedures and points you should be aware of for proper operation of your instrument.
PRACTICAL APPLICATIONS	This part comprises a detailed explanation of sound, effect, rhythm, **SEQUENCER**, **COMPOSER**, Disk Drive and MIDI.
REFERENCE GUIDE (separate booklet)	Reference guide for the contents of the sounds and rhythms, etc.

Cautions for safest use of this unit

Installation location

1. A well-ventilated place.
   Take care not to use this unit in a place where it will not receive sufficient ventilation, and not to permit the ventilation holes to be covered by curtains, or any similar materials.
2. Place away from direct sunlight and excessive heat from heating equipment.
3. A place where humidity, vibration and dust are minimized.

Power source

1. Be sure the line voltage selector is in accordance with local voltage in your area before connecting the plug to the socket.
2. DC power cannot be used.

Handling the power cord

1. Never touch the power cord, or its plug, with wet hands.
2. Don't pull the power cord.

Metal items inside the unit may result in electric shock or damage.

Do not permit metal articles to get inside the unit.

Be especially careful with regard to this point if children are near this unit. They should be warned never to try to put anything inside.

If, nevertheless, some such article does get inside, disconnect the power cord plug from the electrical outlet, and contact the store where the unit was purchased.

If water gets into the unit

Disconnect the power cord plug from the electrical outlet, and contact the store where it was purchased.

As a precaution, it is suggested that flower vases and other containers which hold liquids not be placed on the top of this unit.

If operation seems abnormal

Immediately turn off the power, disconnect the power cord plug from the electrical outlet, and contact the store where it was purchased.

Discontinue using the unit at once. Failure to do so may result in additional damage or some other unexpected damage or accident.

- Because the power source is located inside the unit, it is normal for the cabinet to become warm.

A word about the power cord

If the power cord is scarred, is partially cut or broken, or has a bad contact, it may cause a fire or serious electrical shock if used. NEVER use a damaged power cord for any appliance. Moreover, the power cord should never be forcibly bent.

Don't touch the inside parts of this unit.

Some places inside this unit have high voltage potential. Never try to remove the top or back panels of this unit, or to touch inside parts by hand or with tools.

Contact someone who is qualified in order to inspect the inside, or to replace a fuse. If such becomes necessary. Never attempt to do these things yourself.

Maintenance

The following suggestions will assist you in keeping the unit in top condition.

- Be sure to switch the instrument off after use, and do not switch the unit on and off in quick succession, as this places an undue load on the electronic components.
- To keep the luster of the surface and buttons, simply use a clean, damp cloth; polish with a soft, dry cloth. Polish may be used but do not use thinners or petro-chemical-based polishes.
- A wax-based polish may be used on the cabinet, although you will find that rubbing with a soft cloth will suffice.

SERVICE MUST BE CARRIED OUT BY DEALER OR OTHER QUALIFIED PERSON

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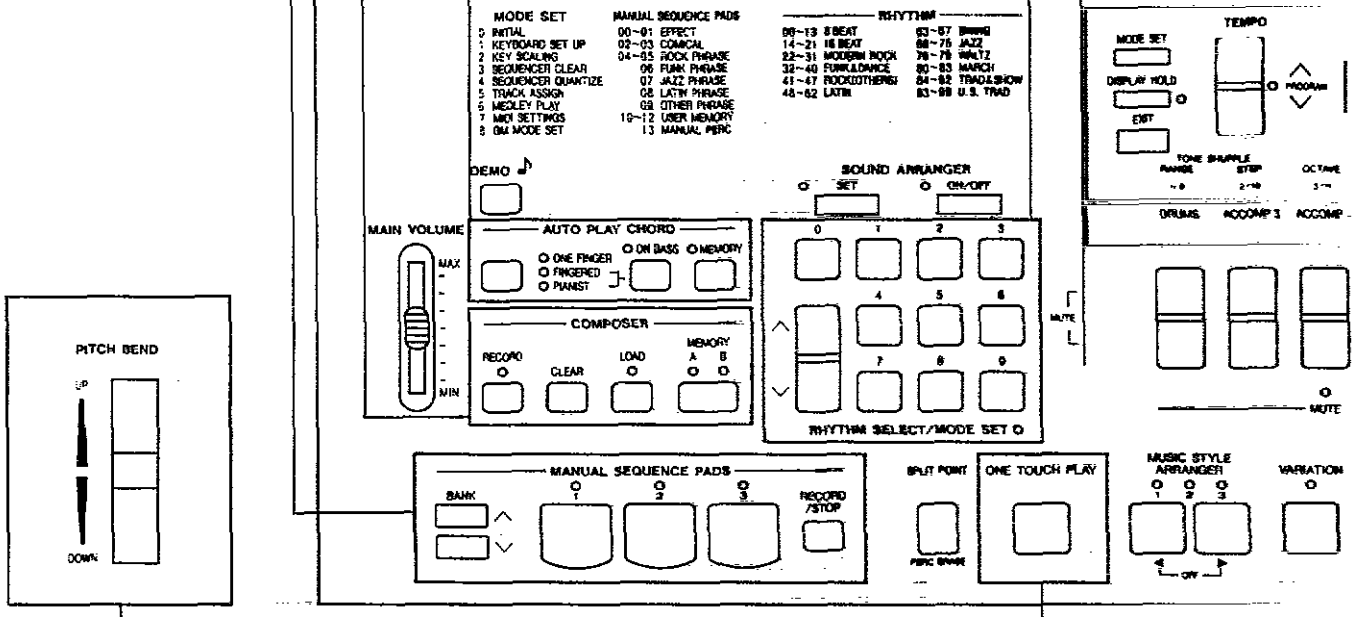
Controls and functions

COMPOSER
Create and store original rhythm patterns. (Refer to page 57.)

AUTO PLAY CHORD
Add an automatic accompaniment to your selected rhythm. (Refer to page 36.)

MANUAL SEQUENCE PADS
Add colorful phrases to your performance with the pad buttons. (Refer to page 31.)

RHYTHM SELECT
There are many different rhythms which are permanently stored in the instrument's memory for you to choose from. (Refer to page 33.)



ONE TOUCH PLAY
Sounds and effects matching the selected rhythm are automatically set. (Refer to page 41.)

SOUND/VARIATION SELECT
You can choose from the many different sounds which are permanently stored in the instrument's memory. (Refer to page 23.)

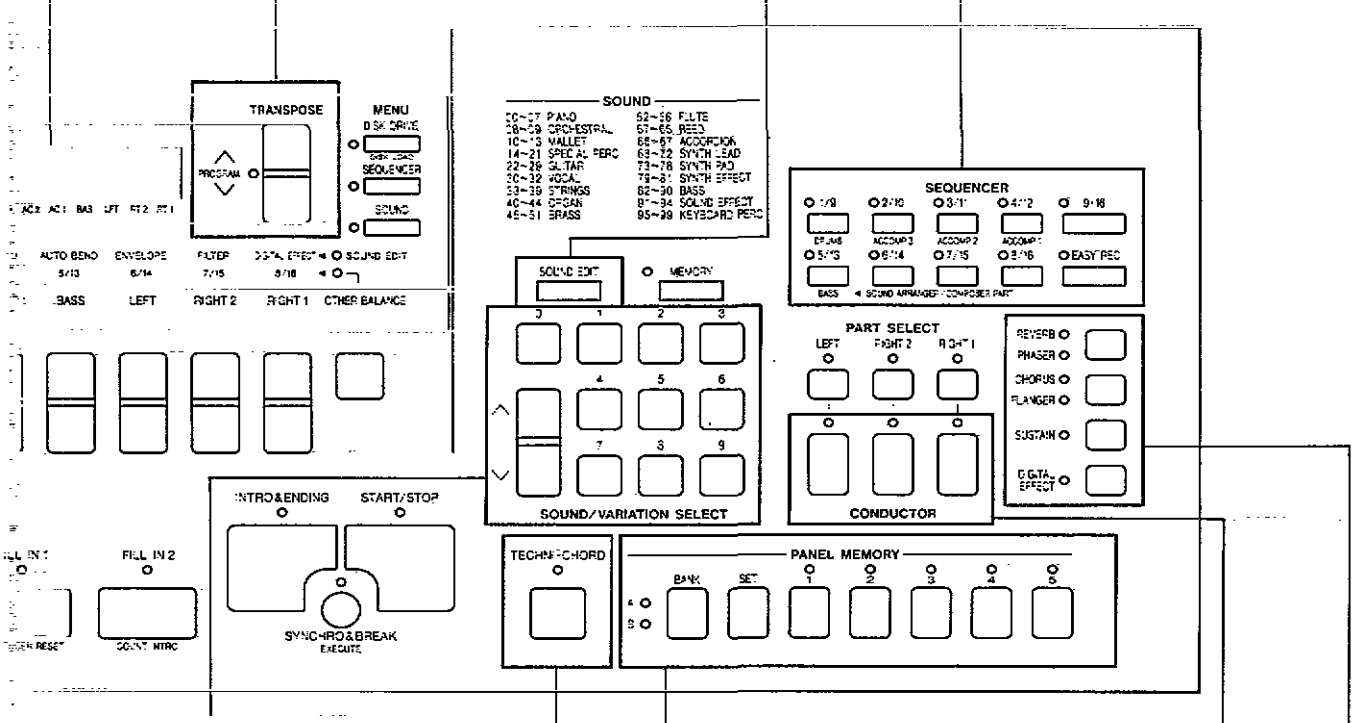
PITCH BEND
The **PITCH BEND** wheel allows a "sliding" change in the pitch. (Refer to page 27.)

DISPLAY
Displays performance information, function settings and other messages. (Refer to page 20.)

TRANSPOSE
Raise or lower the key of the entire keyboard. (Refer to page 28.)

SOUND EDIT
Modify preset sounds to create new and unique sounds. (Refer to page 79.)

SEQUENCER
Record and play back your performance. (Refer to page 45.)



TECHNI-CHORD
Block chords are automatically added to the melody. (Refer to page 29.)

CONDUCTOR
Assign a different sound to each part, then assign the desired parts to sections of the keyboard. (Refer to page 24.)

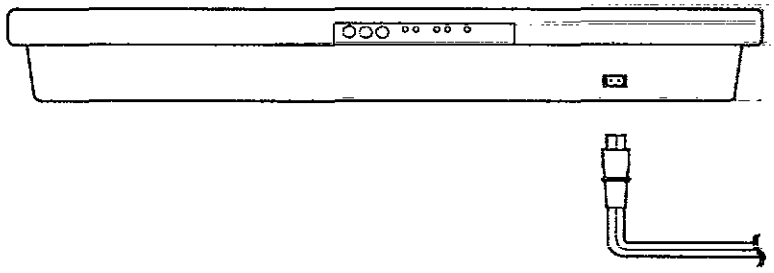
PANEL MEMORY
Store the panel settings, then recall them instantaneously just by pressing a button or two. (Refer to page 43.)

Effects
Add various effects to the sound. (Refer to page 26.)

Backup memory
The panel settings are maintained in a backup memory for about one week after the power to this instrument is turned off. Other stored memories, such as the **SEQUENCER** and **COMPOSER**, are maintained for about 80 minutes. If you wish to keep the memory contents, before you turn off the instrument, use the SAVE procedure to store the desired data on a disk for recall at a later time.
- The back-up memory does not function unless the power has been on for about 10 minutes.

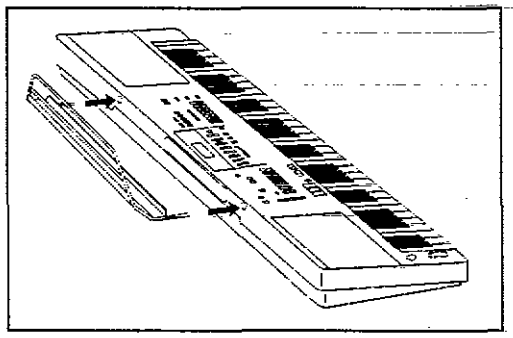
Getting started

Before you play

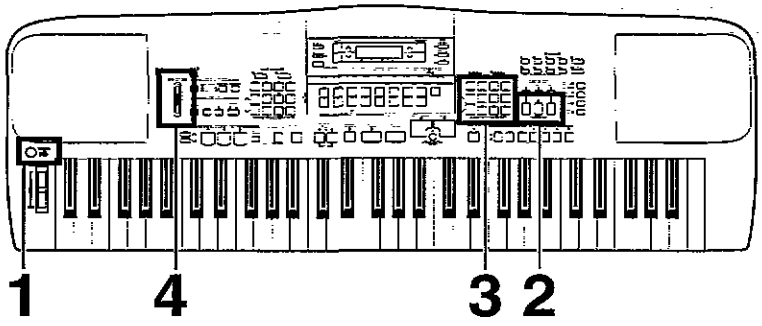


1 Plug the power cord into an outlet.

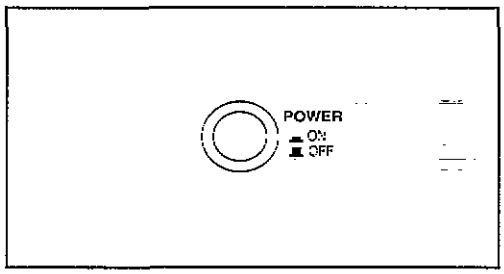
2 Affix the music stand as shown.



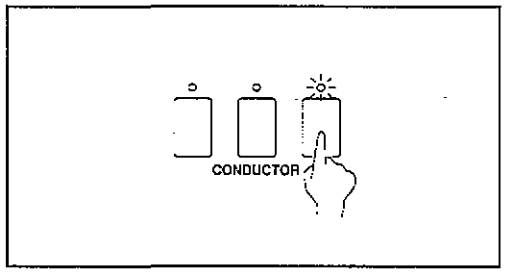
Playing



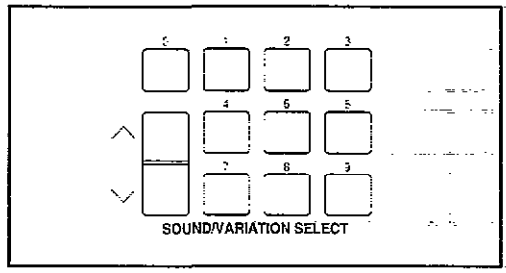
1 Press the **POWER** button to turn it on.



2 In the **CONDUCTOR** section on the panel, press the **RIGHT 1** button to turn it on.

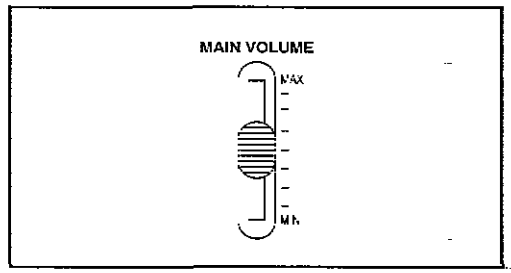


3 On the **SOUND/VARIATION SELECT** number pad, press **0**, then press **4**.



- Touch any note on the keyboard. You will hear the "E.Piano 1" sound.

4 Set the **MAIN VOLUME** to an appropriate level with the sliding control.

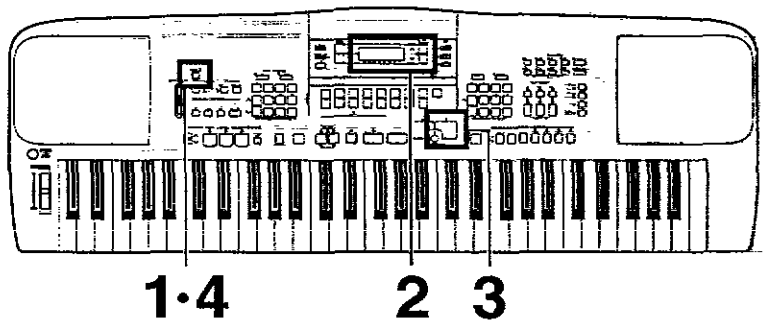


- Your Keyboard features Touch Response. You control the volume by playing the keys harder or softer.

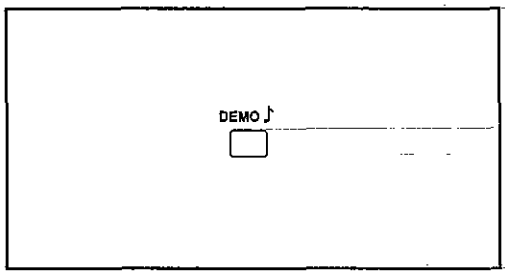
- The pitch of this instrument can be adjusted for when playing with other instruments. (Refer to page 76.)

Listen to the demonstration

Listen to a particular style, sound or rhythm demonstration.

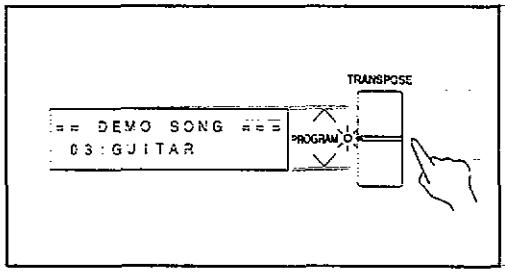


1 Press the **DEMO** ♪ button.

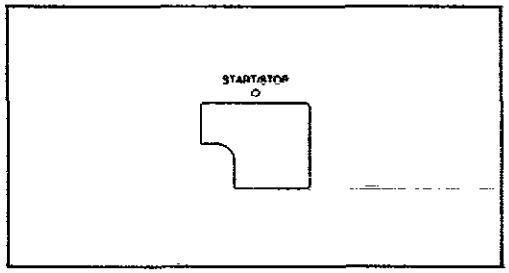


- [DEMO SONG] is shown on the display.

2 Use the **TRANSPOSE** buttons to select the demonstration performance you wish to hear.



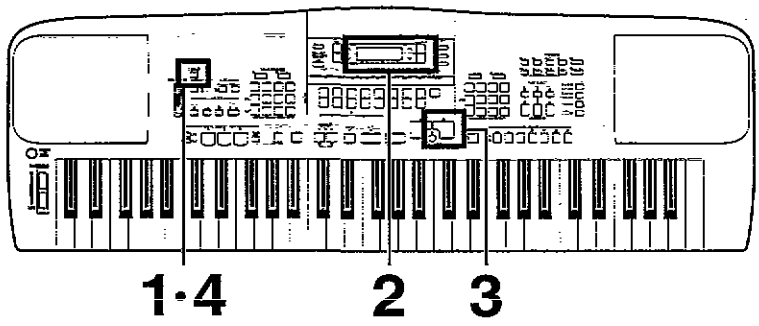
3 Press the **START/STOP** button.



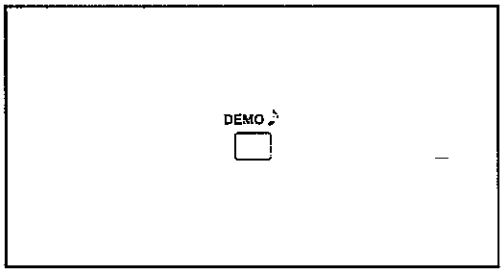
- The demonstration performance corresponding to your selection will begin.
- To end the demonstration before it has finished, press the **START/STOP** button again.
- To listen to other demonstration performances, repeat steps 2 and 3.

4 When you are finished listening to the demonstration tunes, press the **DEMO** ♪ button again.

Listen to the medley demonstration performance.

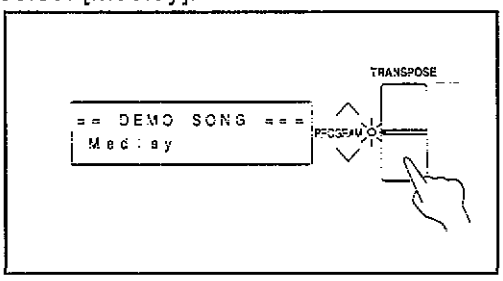


1 Press the **DEMO** ♪ button.

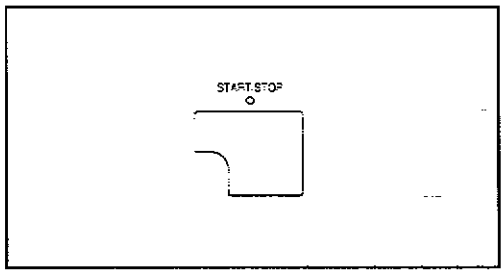


- [DEMO SONG] is shown on the display.

2 Use the **TRANSPOSE** buttons to select [Medley].



3 Press the **START/STOP** button.



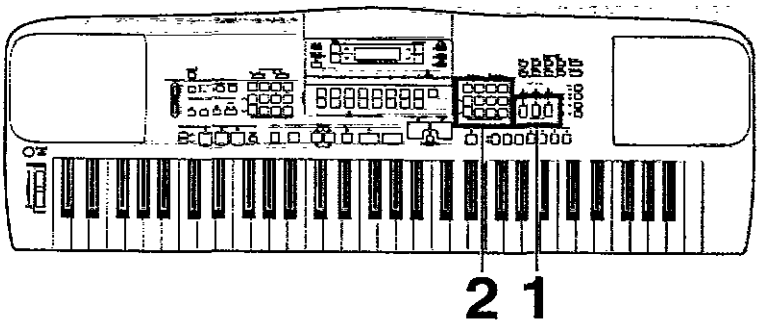
- The medley demonstration performance begins.
- To skip to another tune, use the **TRANSPOSE** buttons.

4 When you are finished listening to the demonstration tunes, press the **DEMO** ♪ button again.

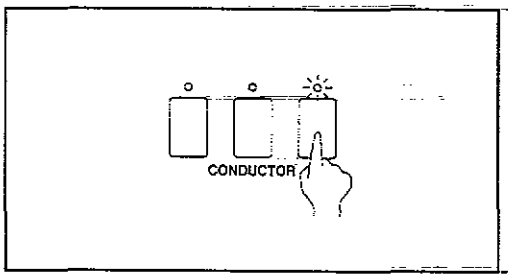
- The medley performance continues until the **START/STOP** button or the **DEMO** ♪ button is pressed again.

- Some of the buttons do not function while the demonstration performances are being played.
- You can play the keyboard along with the demonstration tunes.
- If you press and hold the **DEMO** ♪ button for a few seconds, the medley demonstration performance will begin.

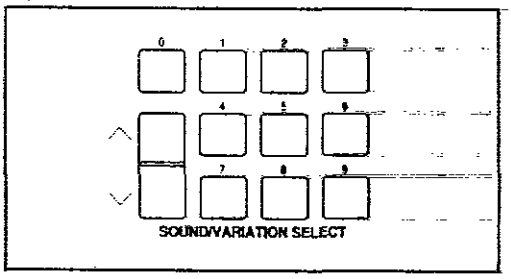
Selecting other sounds



1 In the **CONDUCTOR** section, press the **RIGHT 1** button.



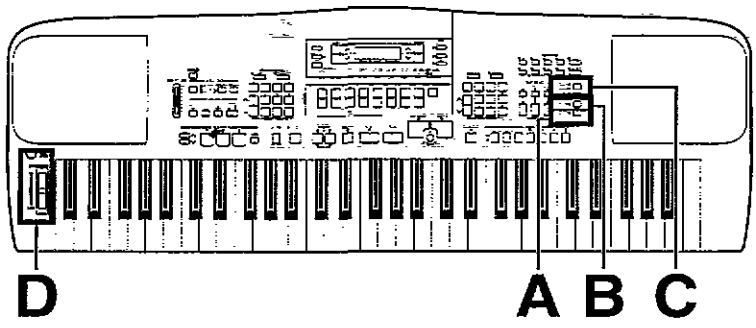
2 On the **SOUND/VARIATION SELECT** number pad, select a sound number (2 digits).



- The list of sounds and their numbers is shown at the upper right of the operation panel.
- The complete list of sounds is shown on the included sheet.
- For single-digit sound numbers: for sound **03**, for example, press **0**, then **3**.
- You can use the ∧ and ∨ buttons to change to the next higher or lower sound number.

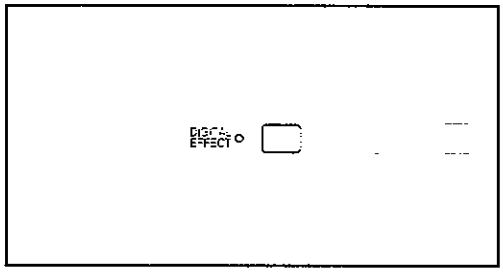
- Other things you can do are mixing sounds and playing different sounds on the left and right areas of the keyboard. (Refer to page 24.)
- Each sound also has a variation sound that you can select. (Refer to page 23.)

Add effects



Add a feeling of spaciousness to the sound.

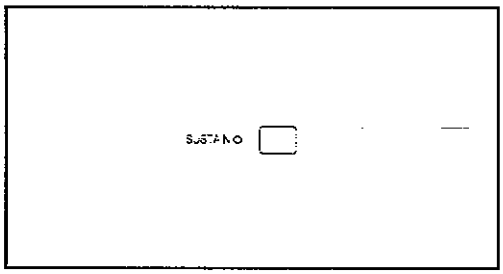
A Turn on the **DIGITAL EFFECT** button.



- The sound is broader and deeper.

Add sustain.

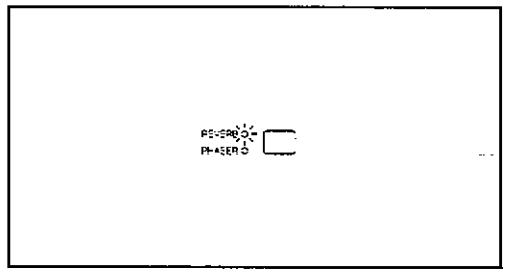
B Turn on the **SUSTAIN** button.



- Play and release a key. The tones fade out gradually after the key is released.

Add reverberation.

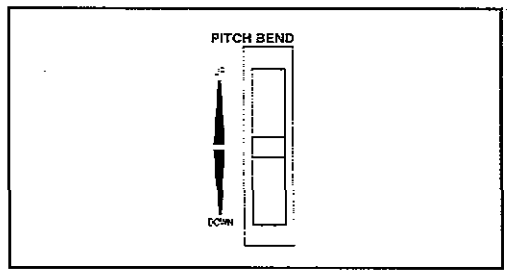
C Use the **REVERB/PHASER** button to select **REVERB**.



- The reverberation effect is applied to all sounds.

Change the pitch.

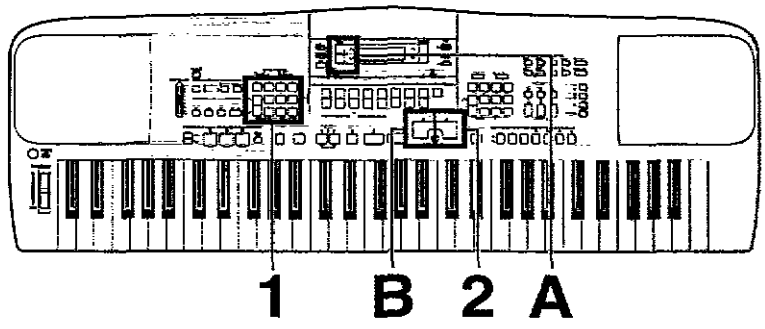
D While playing a key on the keyboard, move the **PITCH BEND** wheel up and down.



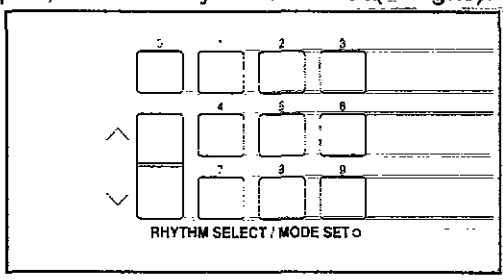
- The pitch of the played key slides up and down, as when you bend the strings on a guitar.

- The type of **DIGITAL EFFECT** differs depending on the selected sound.

Playing automatic rhythms

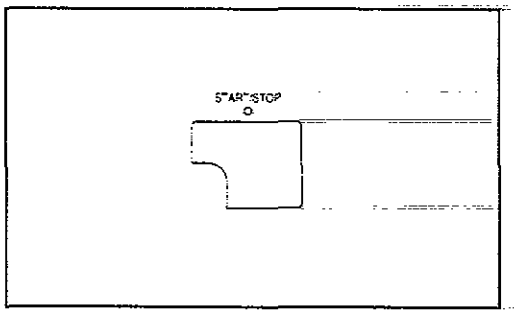


1 On the **RHYTHM SELECT** number pad, select a rhythm number (2 digits).



- The list of rhythms and their numbers is shown at the upper left of the operation panel.
- The complete list of rhythms is shown on the included sheet.
- You can use the ∧ and ∨ buttons to change to the next higher or lower rhythm number.

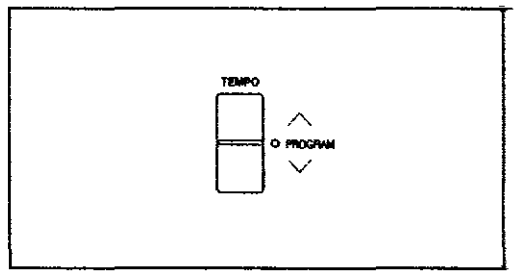
2 Start the rhythm by pressing the **START/STOP** button.



- Stop the rhythm by pressing the **START/STOP** button again.

Adjust the tempo.

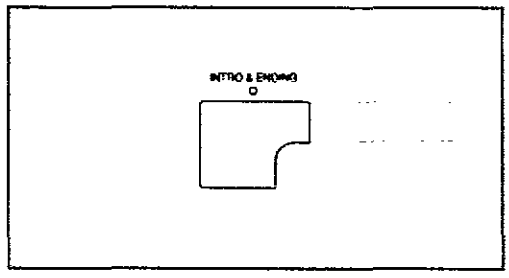
A Adjust the tempo with the **TEMPO** buttons.



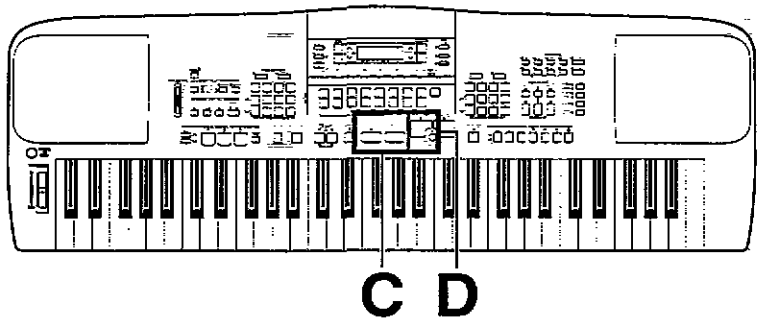
- The tempo is shown on the display.

Insert an intro pattern.

B To start your performance with an introduction, press the **INTRO & ENDING** button before starting the rhythm.

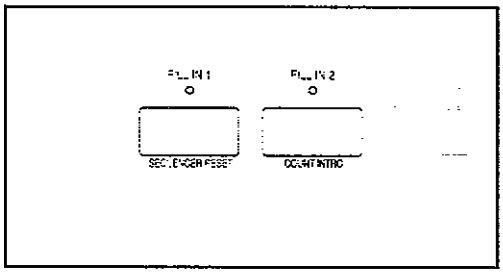


- An intro is played, after which the regular rhythm starts.



Insert a fill-in pattern.

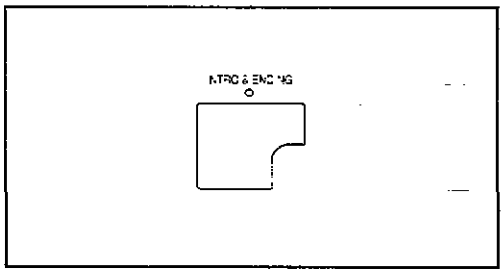
C While the preset rhythm pattern is playing, press either the **FILL IN 1** or **FILL IN 2** button.



- A fill-in pattern immediately starts to play.

Insert an ending pattern.

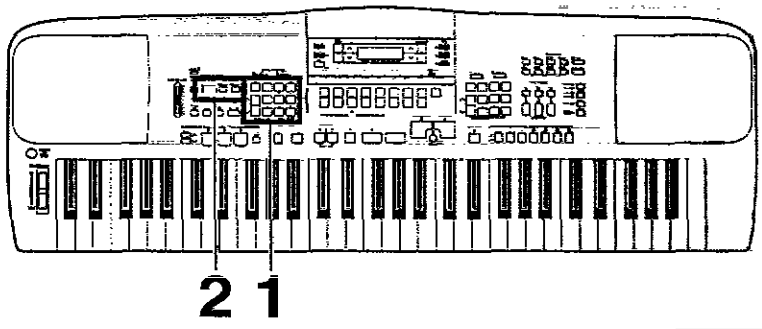
D While the rhythm is playing, press the **INTRO & ENDING** button.



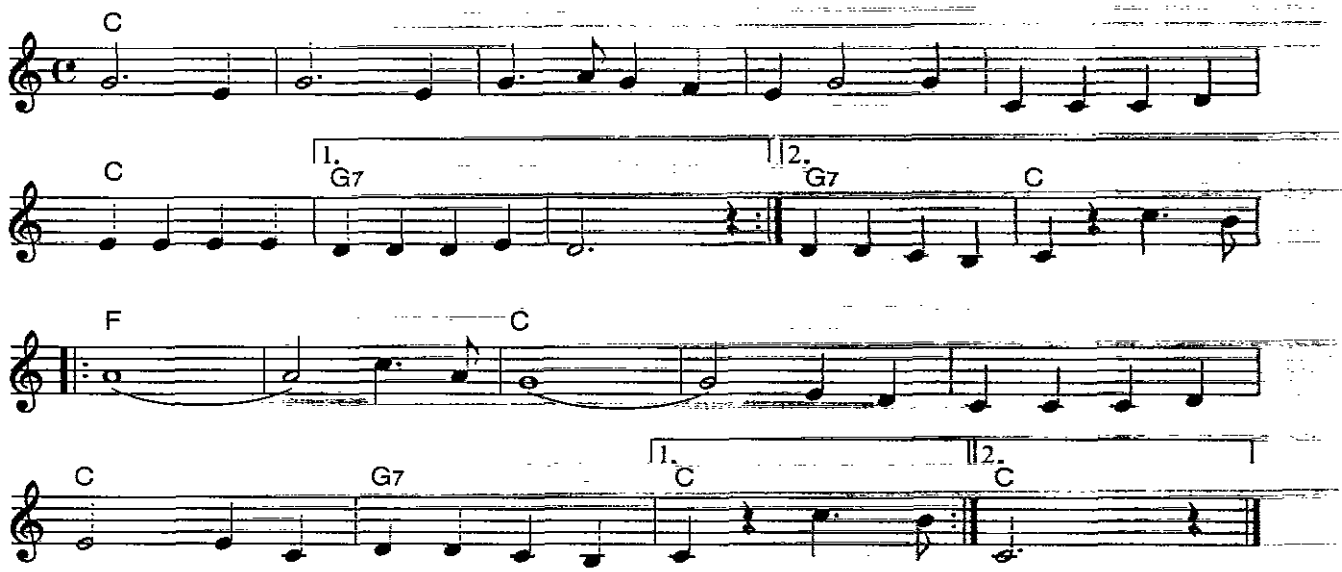
- You will hear an ending pattern, and then the rhythm stops.

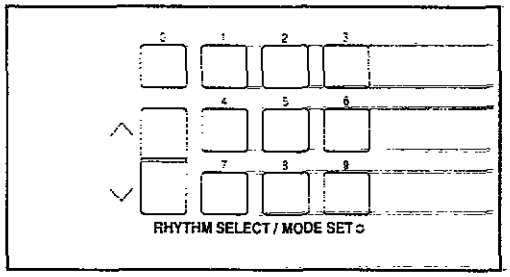
Automatic accompaniment

Use the AUTO PLAY CHORD

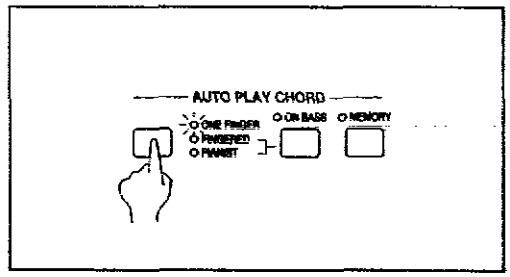


Use the **AUTO PLAY CHORD** with the following tune.

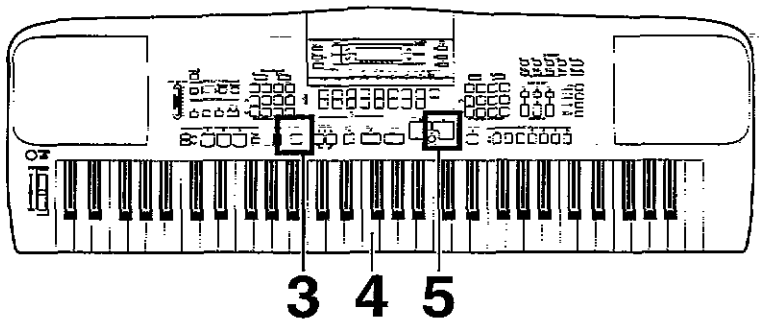
She Wore A Yellow Ribbon

1 On the **RHYTHM SELECT** number pad, select **95** for the "Bluegrass" rhythm.



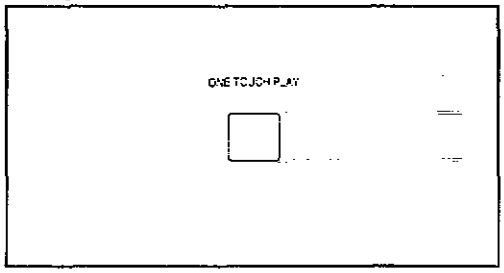
2 In the **AUTO PLAY CHORD** section, select **ONE FINGER**.



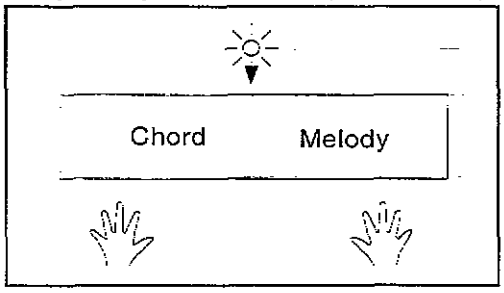
- The keyboard automatically divides into left and right playing areas.



3 Press and hold the **ONE TOUCH PLAY** button until the panel settings change.

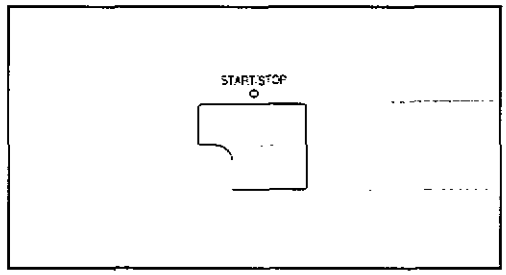


4 Use your left hand to play the chords and your right hand to play the melody.



- Pressing a key on the left area of the keyboard will cause the automatic rhythm pattern to start playing (synchro start).
- When the C key is pressed on the left area of the keyboard, an accompaniment begins to play in the C major key.
- Playing the chord key (root note) and the white key to its left will produce a 7th chord.

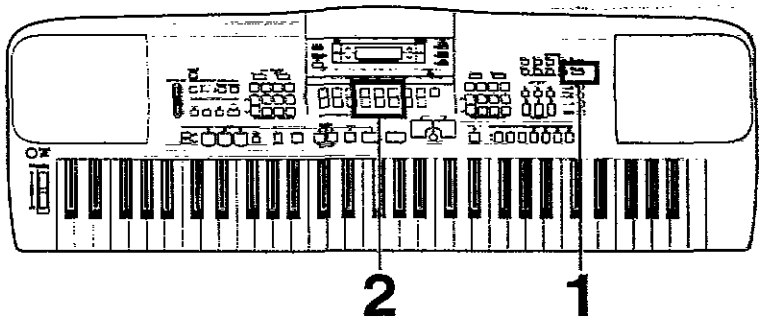
5 At the end of your performance, press the **START/STOP** button.



- The automatic accompaniment stops.

- In this example you played chords by pressing the keys for the "root notes" (**ONE FINGER** chords). But you can also specify the chord by playing all the notes in the chord. (Refer to page 37.)

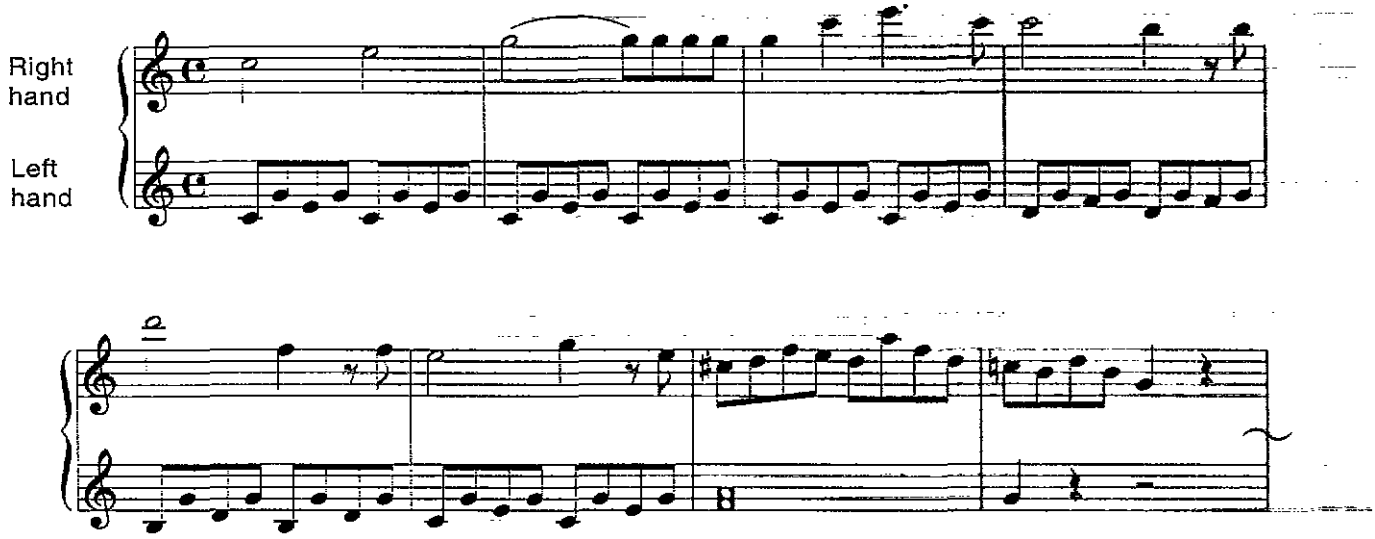
Record your performance



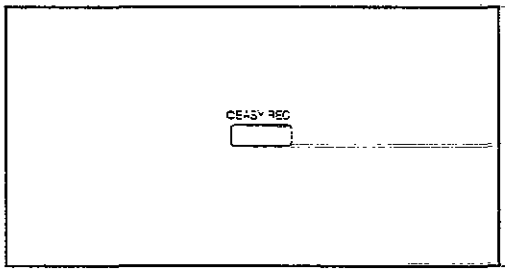
Use the **SEQUENCER** to record your performance.

Sonatina

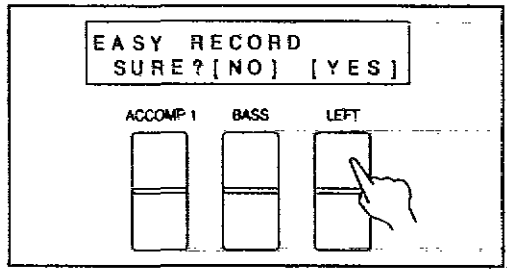
Sound: **00** Piano (**RIGHT 1** part)

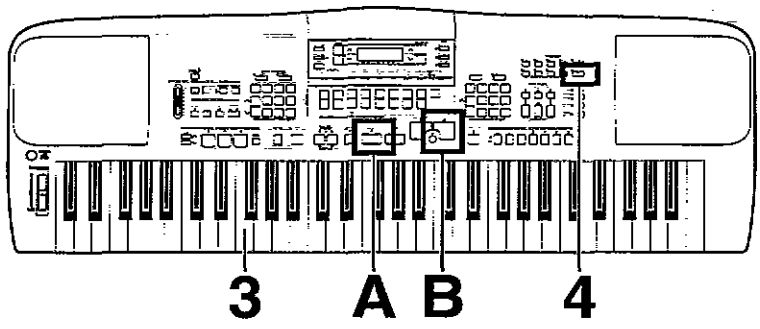


1 In the **SEQUENCER** section, turn on the **EASY REC** button.



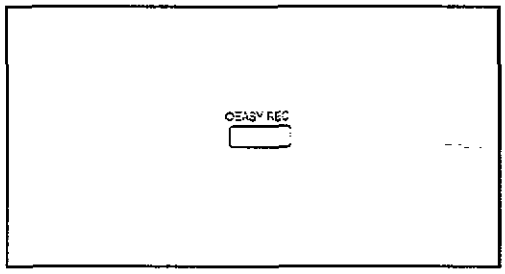
2 Select [YES]. (Press the corresponding button directly below the display.)





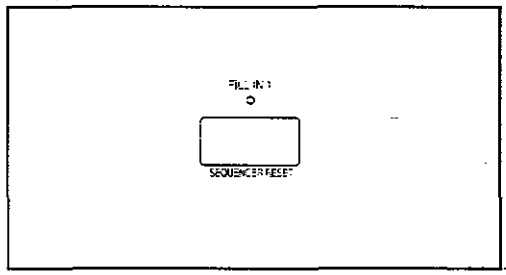
3 Play the song on the keyboard.
- Recording begins.

4 When you have finished playing, press the **EASY REC** button in the **SEQUENCER** section again to turn it off.

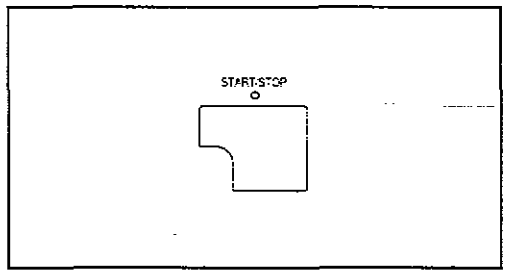


Playing back your recorded performance

A Press the **SEQUENCER RESET** (**FILL IN 1**) button.



B Press the **START/STOP** button.



- Your performance is played back just as you recorded it.

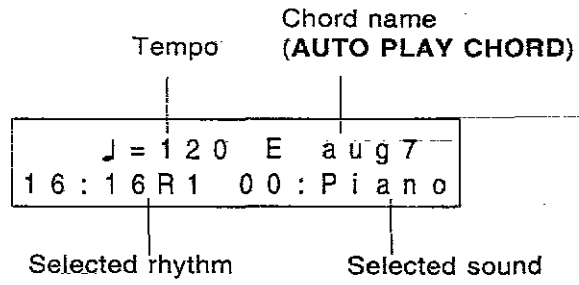
- You can also record several parts individually and then have them played back together for an ensemble performance. (Refer to page 49.)

About the display

The display shows various information and is used for most of this instrument's operations.

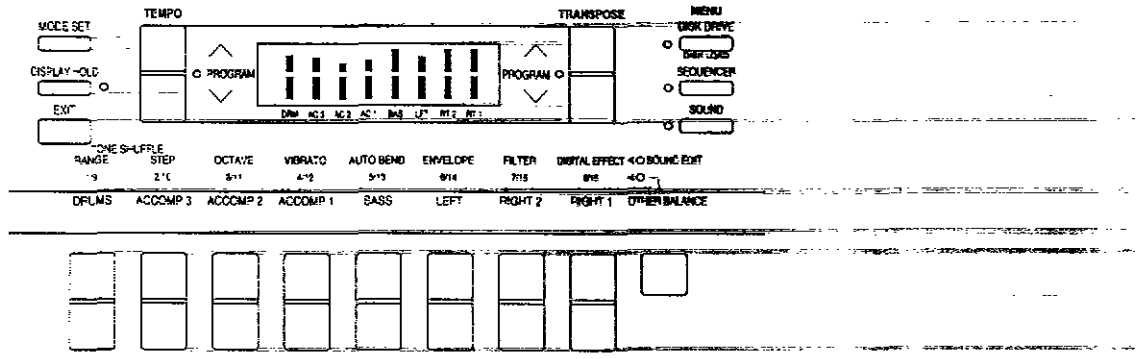
Normal display

This illustration shows the kind of information you see on the display during a normal performance.



Volume balance

When you press one of the balance buttons below the display, the volume of each performance part is shown as a bar graph. Use the buttons directly below the display to adjust the volume of each part.



Press the upper button to increase the volume, and the lower button to decrease the volume.

- Keep the button pressed to change the level quickly.
- The **DRUMS**, **ACCOMP 1**, **2**, **3** and **BASS** parts can be muted. (Refer to page 39.)
- You can turn the **DISPLAY HOLD** on to maintain the setting display.
- A few seconds after changing the setting, the display returns to the previous display.

■ OTHER BALANCE

This instrument can be used as a 16-part multi-timbre sound source when external MIDI equipment is used or when playing back a song disk, and the volume for each part can be adjusted. While the volume is displayed, each time the **OTHER BALANCE** button is pressed, the display alternates between the parts 1 to 8 volume display, the parts 9 to 16 volume display and the performance parts volume display.

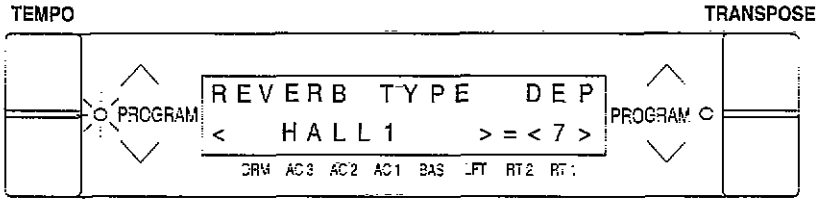
- When this instrument is set to the GENERAL MIDI mode, pressing a balance button changes the display to the volume-setting display for channels (C) 1 to 8, and pressing the **OTHER BALANCE** button changes the display to the volume-setting display for channels 9 to 16. (Refer to page 88.)
- While an **OTHER BALANCE** display is shown, pressing the **EXIT** button will return the display to the one prior to the volume-setting display.

Setting display

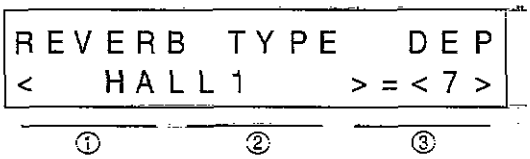
When setting various functions, the available options are shown on the display. The balance buttons below the display, the **TEMPO** buttons and the **TRANSPOSE** buttons are used to select and adjust the settings.

- A flashing **PROGRAM** indicator shows that the corresponding **TEMPO** or **TRANSPOSE** buttons may be used for setting the function.

Example: REVERB setting



■ Examples of instructions you will find in this manual



① **ACCOMP 1** balance buttons
② **BASS** balance buttons
③ **LEFT** balance buttons

Example 1: "Press either ① button."
This means that you should press either balance button (upper or lower) in the ① (**ACCOMP 1**) position.

Example 2: "Use the ③ buttons to set the value."
This means that you should use the upper and lower balance buttons in the ③ (**LEFT**) position to change the number shown on the display.

EXIT button

While a setting display is shown, press this button, at the left of the display, to go back to the previous display.

DISPLAY HOLD button

Press this button to turn it on when you wish to maintain the current display. For example, even during a performance, you can monitor information which is not shown on the normal performance display.

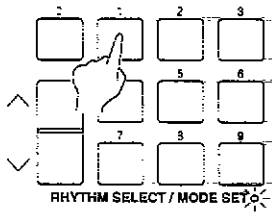
- If any of the **MENU** buttons etc. is pressed, the **DISPLAY HOLD** mode is canceled.

CONTRAST

Adjust the contrast of the display.

1. Press the **MODE SET** button (to the left of the display).

2. On the **RHYTHM SELECT/MODE SET** number pad, press **1**.



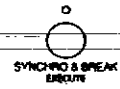
- The following display appears.

```
KEYBOARD SETUP
< FOOT SW SET>
```

① ② ③

3. Use the ①, ② or ③ buttons to select LCD CONTRAST.

4. Press the **EXECUTE (SYNCHRO & BREAK)** button.



- The following display appears.

```
LCD CONTRAST
                < 6 >
```

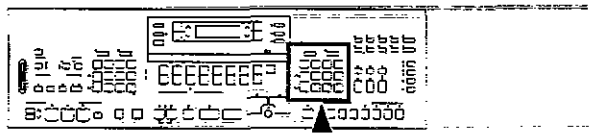
① ② ③

5. Use the ③ buttons to adjust the contrast (1 to 8).
- Set to a level that is easy to read.

6. When you have finished making the settings, press the **MODE SET** button.
- The display goes back to the previous display.

Part I Sounds and effects

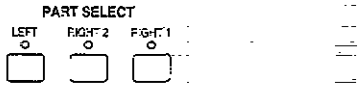
Selecting sounds



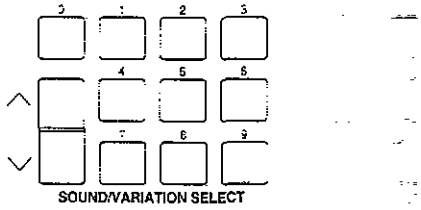
Select the sounds for the three parts you can assign to the keyboard—**RIGHT 1**, **RIGHT 2** and **LEFT**. After first selecting a part, choose the desired sound by its number.

Select a sound

1. In the **PART SELECT** section, choose **RIGHT 1**, **RIGHT 2** or **LEFT**.

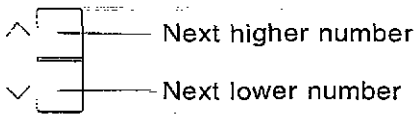


2. On the **SOUND/VARIATION SELECT** number pad (**0** to **9**), press the buttons to select the desired sound (2 digits).



- A list of sounds and their numbers is found on the included sheet.
- The selected part name, sound number and sound name are shown on the display.
- For single-digit numbers: for example, for sound **03**, press **0**, then press **3**.
- If this instrument is set to the GENERAL MIDI mode, enter 3 digits to select the sound. (Refer to page 88.)

■ **∧ and ∨ buttons**



- Keep the ∧ or ∨ button pressed to scroll the numbers quickly.

■ **Variation sound**

Each sound also has a variation sound that you can select. After selecting the desired sound, press the ∧ button once.

- The variation sound is selected, and a * appears to the right of the sound number on the display.
- You can also use the ∧ and ∨ buttons to alternate between the normal sound and the variation sound.
- A list of sounds and their variations can be found in the separate "REFERENCE GUIDE" provided.

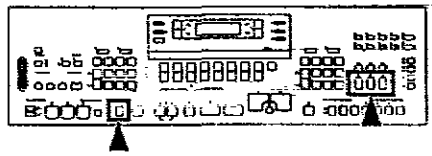
■ **Percussion sounds (KEYBOARD PERC)**

Sound numbers **95** to **99** are percussion instrument sounds and their variations.

- Percussion instrument sounds are produced by the keyboard keys as indicated by the picture code above each key.
- For further information about the arrangement of percussion sounds, refer to the separate "REFERENCE GUIDE" provided.

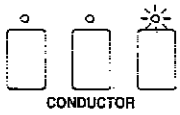
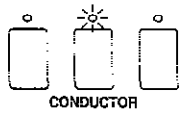
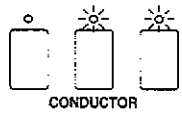
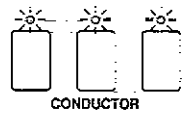
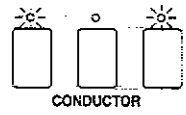
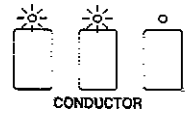
3. Repeat steps 1 and 2 to select sounds for the other parts.

Assigning parts to the keyboard



The **CONDUCTOR** buttons are used to assign sounds to the keyboard in many different ways. For example, you can assign two sounds to the entire keyboard so that playing one key will produce two sounds. You can even split the keyboard into right and left sections (SPLIT), and assign a different sound to each section.

CONDUCTOR

CONDUCTOR settings	How sounds are assigned to the keyboard
 CONDUCTOR	All keys produce the **RIGHT 1** sounds. **RIGHT 1**
 CONDUCTOR	All keys produce the **RIGHT 2** sounds. **RIGHT 2**
 CONDUCTOR	All the keys play both **RIGHT 1** and **RIGHT 2** sounds at the same time. **RIGHT 1 + RIGHT 2**
 CONDUCTOR	The left keys produce the **LEFT** sound and the right keys produce the **RIGHT 1** sound and the **RIGHT 2** sound (SPLIT). **LEFT** / **RIGHT 1 + RIGHT 2**
 CONDUCTOR	The left keys produce the **LEFT** sound and the right keys produce the **RIGHT 1** sound (SPLIT). **LEFT** / **RIGHT 1**
 CONDUCTOR	The left keys produce the **LEFT** sound and the right keys produce the **RIGHT 2** sound (SPLIT). **LEFT** / **RIGHT 2**

- To assign both the **RIGHT 1** sound and the **RIGHT 2** sound to the keyboard, press both of these **CONDUCTOR** buttons at the same time.
- The volume balance for each part can be adjusted. (Refer to page 20.)
- The following conditions are in effect when the **AUTO PLAY CHORD** (page 36) is used.
  ONE FINGER, FINGERED mode: You cannot assign sounds to all the keys.
  PIANIST mode: The keyboard cannot be split.

SPLIT POINT

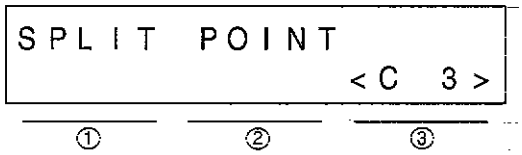
When the keyboard is divided into left and right sections, the split point is indicated by the lit indicator. You can change the location of the split point.

- Each time the **SPLIT POINT** button is pressed, the indication moves to the next split point in the following order. G2 → C3 → G3 → customized split point (all indicators off) (see below).

■ Customized split point

Use the following procedure if you wish to store a split point at a location other than G2, C3 or G3.

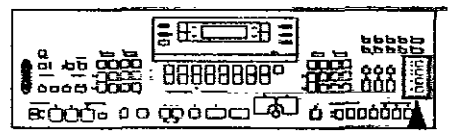
1. Press and hold the **SPLIT POINT** button for a few seconds.
- The following display appears.



2. Press a key on the keyboard to specify the desired split point.
- A split point is set at the location of the pressed key, and the note name is shown on the display.
- The key at the split point is the lowest note of the right keyboard section.
- After a few seconds, the display exits the setting mode.

- Whenever the keyboard is split, you can select your customized split point by pressing the **SPLIT POINT** button until none of the split point indicators is lit.

Effects

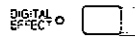


You can achieve even fuller and stirring sounds by adding various effects.

DIGITAL EFFECT

DIGITAL EFFECT gives the sound richness and enhances your performance.

1. In the **PART SELECT** section, turn on the part to which this effect will be applied.
2. Press the **DIGITAL EFFECT** button to turn it on.

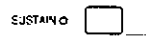


- The on or off status of the **DIGITAL EFFECT** is preset for each sound, so that the **DIGITAL EFFECT** turns on when certain sounds are selected.
- This effect differs depending on the selected sound.
- This effect does not work for the **KEYBOARD PERC (95–99)** sounds.

SUSTAIN

SUSTAIN is the gradual fading out of musical tones after the key is released.

1. In the **PART SELECT** section, turn on the part to which this effect will be applied.
2. Press the **SUSTAIN** button to turn it on.



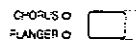
- The **SUSTAIN** can be set to on or off for each part.
- This effect does not work for some sounds.
- The length of the **SUSTAIN** can be adjusted. (Refer to page 75.)
- The sustain can also be turned on and off with the optional Foot Switch (sold separately). (Refer to page 44.)
- This effect does not work for the **KEYBOARD PERC (95–99)** sounds.

CHORUS/FLANGER

The **CHORUS** effect gives a natural fullness to the sound by adding a slightly off-pitch tone to the basic sound. The **FLANGER** effect adds an undulating characteristic to the sound.

- Either the **CHORUS** or the **FLANGER** effect can be applied to the sounds.

1. Press and hold the **CHORUS/FLANGER** button for a few seconds.



- One of the indicators flashes.

2. Use the **CHORUS/FLANGER** button to select the type of effect.
- The type selection alternates between **CHORUS** and **FLANGER** each time the button is pressed.
- Note that either the **CHORUS** effect or the **FLANGER** effect is selected for all the parts in common.
- A few seconds after the setting is changed, the indicator for the selected effect stops flashing and remains lit, and the instrument returns to the normal performance mode.

3. In the **PART SELECT** section, turn on the button for the part to which the effect will be applied.

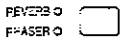
4. Use the **CHORUS/FLANGER** button to turn the effect on or off for the part.

- The **CHORUS/FLANGER** can be set to on or off for each part.
- The type and depth of effect can be changed. (Refer to page 78.)
- The depth of the effect can be set for each part. (Refer to page 75.)

REVERB/PHASER

REVERB applies a reverberation effect to the sound. **PHASER** is a more distinct undulation effect than **FLANGER**.
- Either the **REVERB** or the **PHASER** effect can be applied to the sounds.

Use the **REVERB/PHASER** button to select the type of effect.



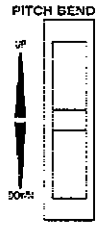
- Each time the button is pressed, the indication changes as follows: **REVERB** → **PHASER** → off.

- The type and depth of effect can be changed. (Refer to page 78.)
- The depth of the effect can be set for each part. (Refer to page 75.)

PITCH BEND

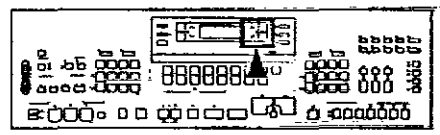
The pitch of the instrument can be continuously changed with the **PITCH BEND** wheel at the left end of the keyboard. Using this control, you can produce the effect of bending the strings on a guitar.

While pressing a key on the keyboard, move the wheel up and down to control the pitch.



- When you release your hand from the wheel, it returns automatically to the center position and the pitch bend effect is turned off.
- The pitch bend effect does not function for the **AUTO PLAY CHORD** accompaniment pattern or for the **LEFT** part sounds.
- The amount of pitch bend can be set. (Refer to page 75.)

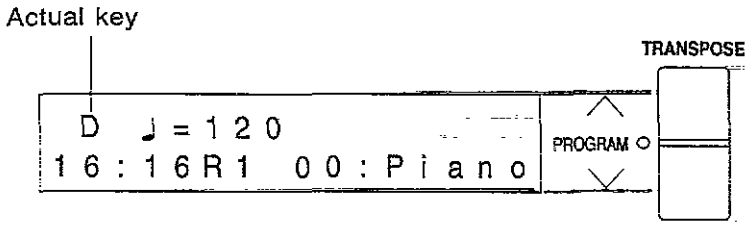
Transpose



The **TRANSPOSE** buttons are used to change the key of the entire instrument in semitone steps across an entire octave.

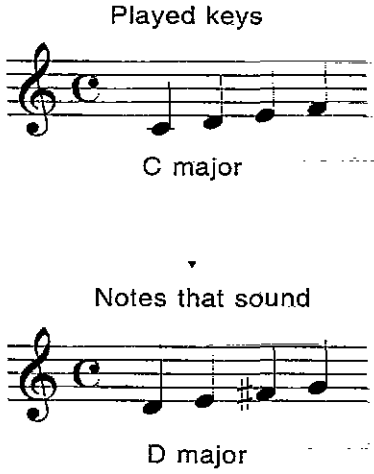
Suppose you learn to play a song—in the key of C, for example—and decide you want to sing it, only to find that it's either too high or too low for your voice. Your choice is to either learn the song all over again in a different key, or to use the **TRANSPOSE** feature.

Adjust the key with the **TRANSPOSE** buttons.

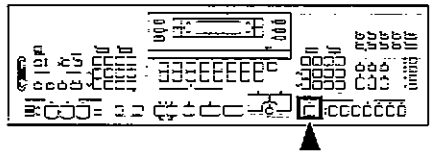


- Each press of the upper button raises the key a semitone, and each press of the lower button lowers the key a semitone (G—C—F♯).
- If the two buttons are pressed at the same time, the key returns to C.
- When setting the key, the current key is shown on the display.
- When the **PROGRAM** indicator is flashing, these buttons are used for setting various functions and cannot be used to change the key.

<Example: transposed to D>



Techni-chord



The **TECHNI-CHORD** feature expands the sound of your performance so that a harmony is produced for the notes played on the right part of a split keyboard.

1. Split the keyboard into left and right sections. (Refer to page 24.)

2. Press the **TECHNI-CHORD** button to turn it on.

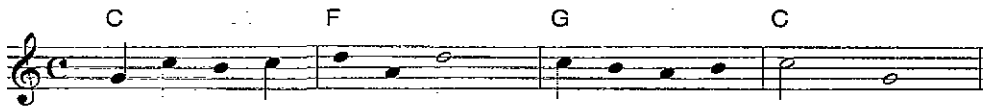
3. Play the keyboard.

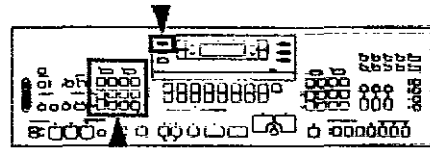
- A harmony based on the chords you play with your left hand is added to the notes you play with your right hand.

- This feature is very effective when used with the **AUTO PLAY CHORD**.
- You can select the desired harmony style. (Refer to page 76.)

Example:

Left hand (chord)

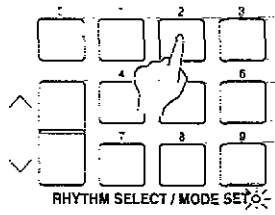
Right hand (melody)

Key Scaling



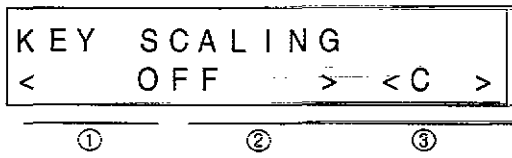
The type of tuning for this instrument can be changed. In addition to the standard tuning (equal temperament), various other types of tuning are available.

1. Press the **MODE SET** button.

2. On the **RHYTHM SELECT/MODE SET** number pad, press **2**.



- The display changes to the following.



3. Use the ① or ② buttons to select the type.
- Select from the following types:
  OFF, PURE Maj, PURE min, PYTHAGRN (PYTHAGOREAN), ARABIC1, ARABIC2, ARABIC3, ARABIC4, SLENDRO, PELOG, USER
- Select OFF for equal temperament tuning.
- [USER] is reserved for key scaling you create yourself. (See the following section on "User type setting".)

4. Use the ③ buttons to select the key in which you are going to perform.

5. When all the settings have been completed, press the **MODE SET** button.

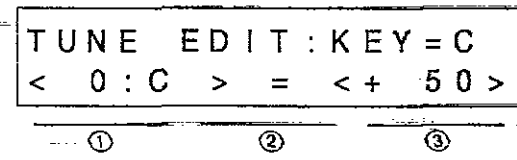
■ User type setting

You can set your original micro tuning.

- In KEY SCALING, the pitch of each note within the octave is slightly shifted up or down from the standard (equal temperament) tuning.

1. On the KEY SCALING display, select [USER] for the type.

2. Press the **EXECUTE (SYNCHRO & BREAK)** button.
- The display changes to the following.

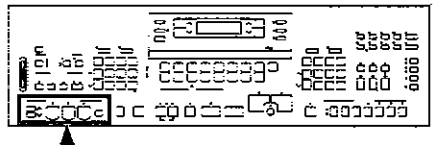


3. Use the ① buttons to select the note name (0 to 11).
- Increments are in semitones. With 0 as the tonic, each number indicates an interval of one semitone. For example, if the standard pitch is C, a setting of 1 will be D♭.

4. Use the ③ buttons to set the amount of pitch shift (–100 to +100).
- A value of 100 is one semitone. Based on the standard tuning (equal temperament tuning), + raises the pitch and – lowers the pitch.

5. Repeat steps 3 and 4 as desired.

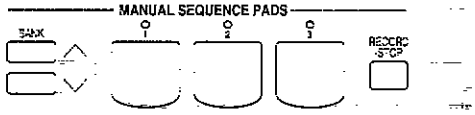
Part II Manual Sequence Pads



You can add various phrases and effect sounds to your performance by tapping the **MANUAL SEQUENCE PADS** buttons. Many different phrases are preset in the buttons, but you can also record your original phrases in the buttons.

Playing phrases

1. Use the **BANK** buttons to select the bank of the phrase you wish to play.



- The list of each bank can be found on the upper part of the panel.
- Banks 10 to 12 are for storing your original phrases. (See the following section.)
- If 13 is selected, each pad produces a percussion instrument sound.
- When selecting the bank, the display looks similar to the following.

```
MSP BANK SELECT
 07:Jazz Phrase
```

2. Press the **1**, **2** or **3** button of the **MANUAL SEQUENCE PADS**.
- The selected phrase is played in the specified tempo.
- To stop the phrase before it has ended, press the **RECORD/STOP** button.
- Some phrases continue to play until the **RECORD/STOP** button is pressed.
- A different phrase is played by each pad button.
- When the automatic accompaniment is on, the phrase is played in the specified chord.

- The **MANUAL SEQUENCE PADS** volume can be adjusted. (Refer to page 75.)

Recording phrases

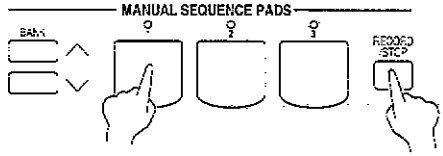
You can record your original phrases in banks 10 to 12.

1. Select the sounds and effects for your phrase.
- Set the sounds in the **RIGHT 1** part.

2. Use the **TEMPO** buttons to adjust the recording tempo.

3. Use the **BANK** buttons to select the number of a user bank (10 to 12).
- Do not select a bank other than 10, 11 or 12.

4. While pressing the **RECORD/STOP** button, press the pad button in which you are going to record your phrase.



- The display changes to the following.

```
MSP RECORDING
 ♩=120 MEAS=- 2
```

- After a two-measure count (MEAS= –2, –1), recording begins.

5. Play the phrase on the keyboard.
- The current measure number is shown as "MEAS=" on the display.
- During recording, the indicator for the selected pad button flashes.
- For some sounds, the stored octave may be different from the octave that was played during recording.

6. When you are finished recording the phrase, press the **RECORD/STOP** button.

7. Repeat steps 4 to 6 to record phrases in the other pad buttons, if desired.
- Phrases can be recorded in the other user banks in the same manner.
- The following data is recorded.
  Keyboard performance
  Sound selection and changes
  SUSTAIN setting
  PITCH BEND wheel operation, etc.
- The recording capacity of all the **MANUAL SEQUENCE PADS** [USER] banks is about 1200 notes. When "MEMORY FULL!!" appears on the display, no more data can be stored in the **MANUAL SEQUENCE PADS**.

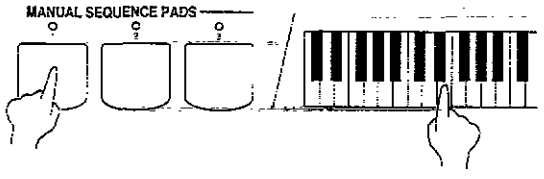
Manual percussion sound changes (13 Manual Perc.)

Percussion instrument sounds are stored in each pad button for **BANK** 13, but you can select a different instrument sound for each pad button.

1. Use the **BANK** buttons to select 13 Manual Perc.

2. On the **SOUND/VARIATION SELECT** number pad, select a **KEYBOARD PERC** KIT (**95** to **99**).

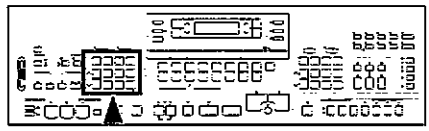
3. While pressing one of the pad buttons, select the desired percussion sound by pressing the corresponding key on the keyboard for about 2 seconds.



- When you hear the percussion sound of the pressed key, it means the sound has been assigned to the selected pad button.
- Two more percussion sounds can be assigned to the remaining two pad buttons in the same way.
- Only one drum KIT can be specified at a time, and it is common to all the pad buttons.

Part III Playing the rhythm

Selecting rhythms

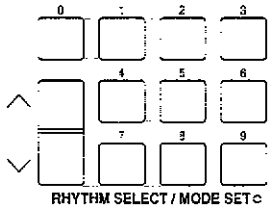


The rhythm section enhances the capabilities of your Keyboard with features such as automatic performance of the preset rhythm patterns and accompaniment patterns.

Select a rhythm

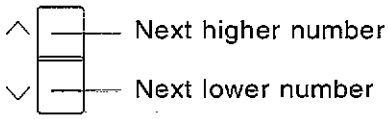
Select a rhythm by its number.

1. On the **RHYTHM SELECT/MODE SET** number pad (**0** to **9**), press the buttons to select the desired rhythm (2 digits).



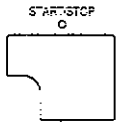
- A list of rhythms and their numbers is found on the included sheet.
- The selected rhythm number and rhythm name are shown on the display.
- For single-digit numbers: for example, for rhythm **03**, press **0**, then press **3**.
- When the **RHYTHM SELECT/MODE SET** indicator is flashing, these buttons are used for setting the **MODE SET** functions and cannot be used to select the rhythm.

■ **∧ and ∨ buttons**



- Keep the ∧ or ∨ button pressed to scroll the numbers quickly.

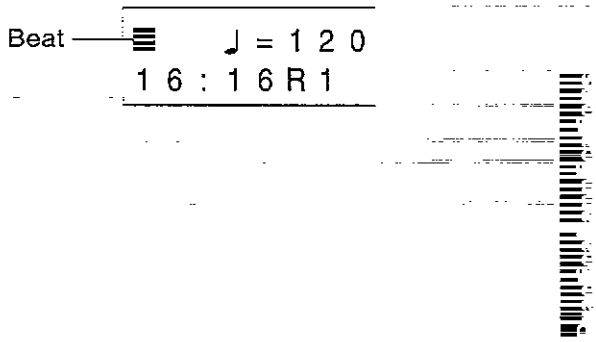
2. Press the **START/STOP** button to turn it on.



- The selected rhythm pattern immediately begins to play. Play the keyboard in time with the rhythm.
- You can stop the rhythm by pressing the **START/STOP** button again to turn it off.

■ **Beat**

While the rhythm is on, the beat is shown on the display.

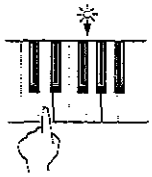


Synchronized start

With the synchronized start feature, the rhythm pattern starts when you play a key on the keyboard.

1. Select a rhythm.
2. Press the **SYNCHRO & BREAK** button to turn it on.

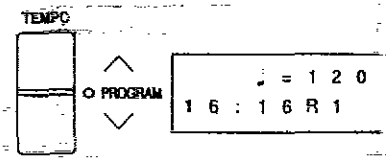
3. Play a key to the left of the keyboard split point.



- The rhythm pattern begins to play.
- You can use the synchronized start feature even when the keyboard is not divided into left and right sections. To start the rhythm, press a key to the left of the specified split point.

Adjust the tempo

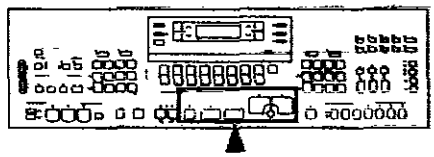
The tempo of the rhythm pattern is adjusted with the **TEMPO** buttons.



- Each press of the upper button increases the tempo, and each press of the lower button decreases the tempo.
- The tempo is shown on the normal display as a numerical value (♩ = 40 to 300).
- Keep the upper or lower button pressed to scroll the numbers quickly.
- If the two buttons are pressed at the same time, the tempo returns to the standard 120 setting.

- When the **PROGRAM** indicator is flashing, these buttons are used for setting various functions and cannot be used to adjust the tempo.

Playing the rhythm

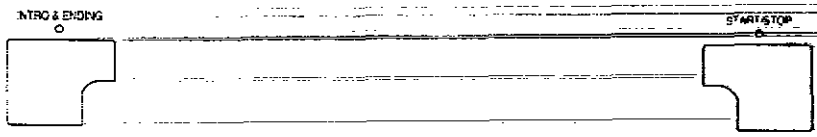


Intro, fill-in and ending patterns fitting each different rhythm pattern are permanently recorded in your Keyboard, thus allowing a versatile rhythm performance.

INTRO

Begin the rhythm performance with an intro pattern.

1. Press the **INTRO & ENDING** button to turn it on.
2. Press the **START/STOP** button to start the rhythm.

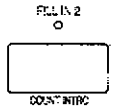


- An intro pattern is played, after which the normal rhythm pattern begins.

COUNT INTRO

You can begin the rhythm performance with a one-measure count.

1. Press the **COUNT INTRO (FILL IN 2)** button to turn it on.

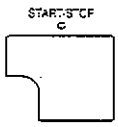


2. Press the **START/STOP** button to start the rhythm.
- A one-measure count is played, after which the normal rhythm pattern begins.

VARIATION

Each rhythm pattern also has a variation pattern. Add drama to your performance by switching to the variation pattern at climactic points in the melody.

1. Select a rhythm and press the **START/STOP** button.



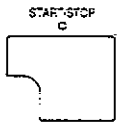
2. Press the **VARIATION** button to turn it on.

- The rhythm changes to a flashier pattern.
- Press the **VARIATION** button again to turn it off and go back to the normal rhythm pattern.
- The **VARIATION** button does not work when the **MUSIC STYLE ARRANGER** is on. (Refer to page 41.)

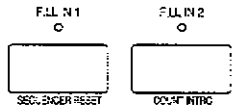
FILL IN

You can insert a fill-in pattern any time during the rhythm performance. Choose from two different fill-in patterns.

1. Select a rhythm and press the **START/STOP** button.



2. Press the **FILL IN 1** or **FILL IN 2** button.

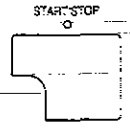


- A fill-in pattern is heard immediately for the remainder of the measure.
- When a **FILL IN** button is pressed on the last beat of the measure, the fill-in pattern continues to the end of the following measure.

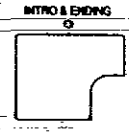
ENDING

Finish the rhythm performance with an ending pattern.

1. Select a rhythm and press the **START/STOP** button.

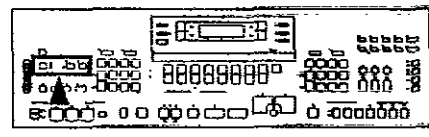


2. Press the **INTRO & ENDING** button to turn it on.



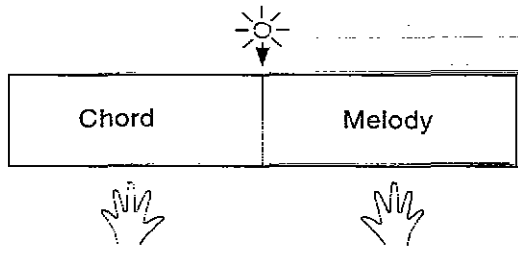
- An ending pattern is produced, and then the rhythm performance stops.
- If you accidentally press the **INTRO & ENDING** button in the middle of the tune, you can press the **FILL IN 1** or **FILL IN 2** button. The ending pattern stops, and a fill-in pattern is produced, after which the normal rhythm performance continues.

Auto Play Chord



Simply by playing a chord on the keyboard, the **AUTO PLAY CHORD** function automatically plays an accompaniment pattern which matches perfectly the selected rhythm. With a real accompaniment as a background, you can concentrate on playing the melody.

How the AUTO PLAY CHORD works

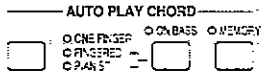


When an **AUTO PLAY CHORD** mode is selected, an automatic accompaniment which matches the rhythm you have chosen is played in the chord which you specify with your left hand. The melody is played with your right hand.

- The accompaniment pattern of the **AUTO PLAY CHORD** is composed of five parts: **DRUMS**, **BASS**, **ACCOMP 1**, **ACCOMP 2** and **ACCOMP 3**.

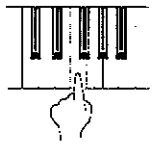
Playing chords

Choose from three ways of playing chords.

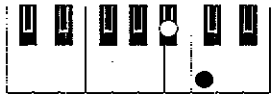
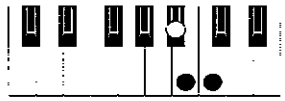


■ ONE FINGER mode

In the **ONE FINGER** mode, a major chord can be played just by pressing the key for its root note.



Minor, seventh and minor seventh chords are also easily produced.

Minor	Seventh	Minor seventh
Play the root note plus a black key to the left of it.	Play the root note plus a white key to the left of it.	Play the root note plus a black key and a white key to the left of it.
Example: Cm 	Example: C7	Example: Cm7 

■ FINGERED mode

In the **FINGERED** mode, you specify the chord by playing all the notes in the chord.

- The automatic accompaniment can recognize the following types of chords for each key (C is given as an example): C, C7, Caug, Caug7, Cm, Cm7, Cdim, Cm7♭5, CmM7, Csus4, C7sus4, C♭5, C7♭5, Cm♭5, C6, Cm6, CM7♭5, CM7♯5, CmM7♭5, etc.

■ PIANIST mode

In the **PIANIST** mode, the entire keyboard can be used to specify chords (**FINGERED** mode) for the automatic accompaniment; a **RIGHT** part is assigned to all the keys, and the keyboard does not split. In addition to the chords in the **FINGERED** mode, the automatic accompaniment also recognizes 9th and 13th chords.

■ ON BASS

If the **ON BASS** button is on while the **FINGERED** or **PIANIST** mode is selected, the **BASS** part is produced in the key of the lowest note of the played chord, thus making it possible to play chords such as D on C.

- For example, with the **ON BASS** button on, if you play a C chord by pressing the keys G, C and E, the **BASS** part is produced in the key of G.

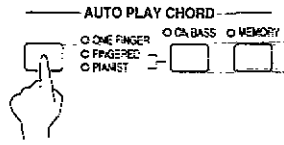
■ MEMORY

When the **MEMORY** button is on, even when the keys are released, the chord is memorized and the accompaniment continues to play until you specify another chord.

How to use the AUTO PLAY CHORD

1. Select the desired rhythm and sound(s), and set the tempo.

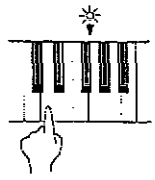
2. Select an **AUTO PLAY CHORD** mode (**ONE FINGER**, **FINGERED** or **PIANIST**).



- Each time the button is pressed, the indication changes as follows: **ONE FINGER** → **FINGERED** → **PIANIST** → off.
- If the **ONE FINGER** or **FINGERED** mode was selected, the keyboard automatically splits into right and left sections.

3. Press the **START/STOP** button to begin the rhythm.
- You can start the rhythm by playing a key on the keyboard. (Refer to page 34.)

4. Specify a chord.



- An accompaniment pattern in the specified chord is automatically played. Play the melody with your right hand.
- If the **ONE FINGER** or **FINGERED** mode was selected, specify the chord on the keyboard section to the left of the split point.

- When you use **INTRO**, **FILL IN** and **ENDING**, the automatic accompaniment is also used in these patterns.
- The volume of each part of the automatic accompaniment can be adjusted. (Refer to page 20.)
- In the **ONE FINGER** mode, the sound assigned to the left section of the keyboard (**LEFT** part) does not sound in the initialized condition. You can set the mode which determines how the **LEFT** part sounds during an **AUTO PLAY CHORD** performance. (Refer to page 77.)
- In the initialized condition, when the rhythm is off, if the **ONE FINGER** or **FINGERED** mode is on and a chord is specified, the specified root note (R.B part) and chord notes (CHD part) are produced.

5. To stop the automatic accompaniment, press the **START/STOP** button.

BREAK function

With the break function, the rhythm starts when the left keyboard is played and stops when the fingers are removed from the keys.

1. Select an **AUTO PLAY CHORD** mode.
- At this time, the **MEMORY** button should be off.

2. Press the **SYNCHRO & BREAK** button to turn it on.

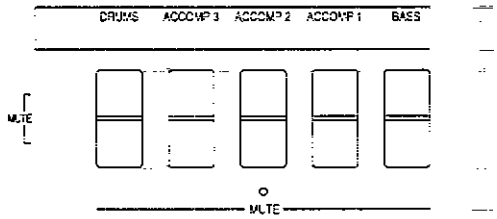
3. Specify a chord.
- The automatic accompaniment begins to play (synchronized start).
- For the **PIANIST** mode, play the keys to the left of the currently set split point.

4. Release the chord keys.
- The automatic accompaniment stops. When the keys are pressed again, the rhythm starts from the first beat.

MUTE function

You can turn off the sound of a specific part or parts of the **AUTO PLAY CHORD**.

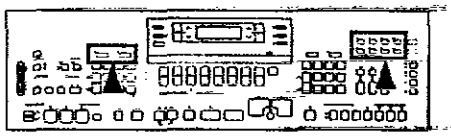
To mute a part, press both its balance buttons at the same time.



- The selected parts are muted (produce no sound).
- While the button is pressed, the balance display is shown. Parts which are muted are indicated by a "M" mark.
- Pressing either balance button for a muted part will cancel the mute function.

- If any part is muted, the **MUTE** indicator is lit. When the **MUTE** function is off for all parts, the indicator is not lit.

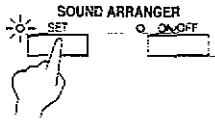
Sound Arranger



The **SOUND ARRANGER** feature lets you select other sounds for the **AUTO PLAY CHORD** parts of each rhythm.

Setting the sounds

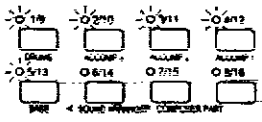
1. In the **RHYTHM SELECT/MODE SET** section, select the rhythm whose sound you wish to change.
   - Do not select a **COMPOSER** rhythm.
2. In the **SOUND ARRANGER**, press the **SET** button to turn it on.



   - The display changes to the following.

```
= SOUND ARRANGER =
  Select Part
```

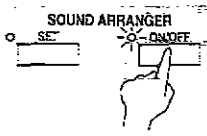
3. In the **SOUND ARRANGER/COMPOSER PART** section, press the button (with the flashing indicator) for the part whose sound you wish to change.



   - The number and name of the sound currently assigned to the part are shown on the display.
4. On the **SOUND/VARIATION SELECT** number pad, select the desired sound.
   - The **DIGITAL EFFECT** on/off status can also be specified (except for **KEYBOARD PERC** sounds).
   - For the **DRUMS** part, select sounds from the **KEYBOARD PERC** (**95** to **99**) sounds. (These sounds cannot be selected for other parts.)
5. Repeat steps 3 and 4 for the other parts as desired.
6. When you have finished selecting the sounds, press the **SET** button to turn it off.

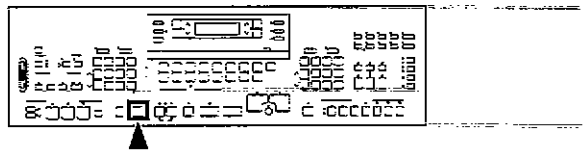
Playing back the sounds

1. In the **SOUND ARRANGER**, press the **ON/OFF** button to turn it on.



2. Start the rhythm (automatic accompaniment).
   - When the **ON/OFF** button is off, the factory-preset sounds are produced.

One Touch Play



ONE TOUCH PLAY sets up your Keyboard with a suitable registration for your chosen rhythm style so that you can make a great sound straight away, even if you are playing the Keyboard for the first time.

1. Select a rhythm you wish to play.
- Do not select a **COMPOSER** rhythm.

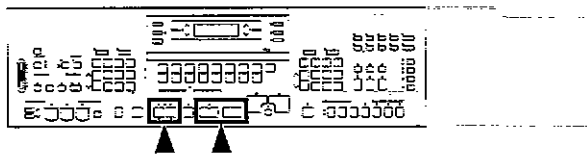
2. Press and hold the **ONE TOUCH PLAY** button until the panel settings change.

- The **AUTO PLAY CHORD**, the **MEMORY** button and the **SYNCHRO & BREAK** button turn on, and the sounds, effects, rhythm and tempo which are best suited for the selected music style are automatically selected.

3. Play the keyboard.
- When a key on the left section of the keyboard is pressed, the automatic rhythm begins to play immediately.

- Press the **INTRO & ENDING** button before you play for a professional-sounding introduction.
- Use the **ONE TOUCH PLAY** settings as a starting point for your own settings. Alter the sounds, volume and tempo to your own taste and store the new settings in the **PANEL MEMORY** for future use. (Refer to page 43.)

Music Style Arranger

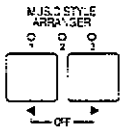


The **MUSIC STYLE ARRANGER** helps you to make professional registration changes during your performance. Select between three contrasting registrations at the push of a button.

How to use the MUSIC STYLE ARRANGER

1. Select a rhythm.
- Do not select a **COMPOSER** rhythm.

2. Press the **MUSIC STYLE ARRANGER** button to select the style (**1**, **2** or **3**) you want at the beginning of your performance.



1: Simple style
2: Normal style
3: Flashy style

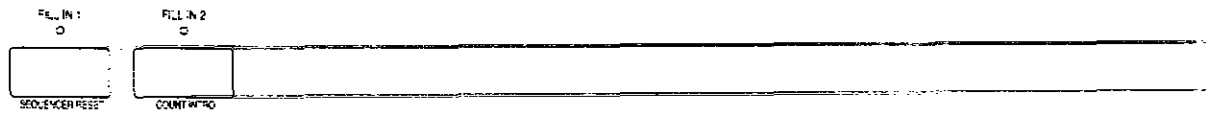
- Press the ▶ button to raise the number (**1** → **2** → **3** → **1** → **2**...), or the ◀ button to lower the number (**3** → **2** → **1** → **3** → **2**...).

- The panel settings (including the tempo) change according to the selected rhythm and music style. The **AUTO PLAY CHORD** and the **SYNCHRO & BREAK** button are automatically turned on. When a key on the left section of the keyboard is pressed, the automatic rhythm begins to play immediately.
- The on/off status of the **VARIATION** button is also automatically set and cannot be changed when the **MUSIC STYLE ARRANGER** is on.

- During your performance, the style can be changed, but the tempo does not change.
- To turn the **MUSIC STYLE ARRANGER** function off, press the ◀ and ▶ buttons at the same time.

How to change the music style during your performance

While you are playing the keyboard with the **MUSIC STYLE ARRANGER** on, press the **FILL IN 1** or **FILL IN 2** button.

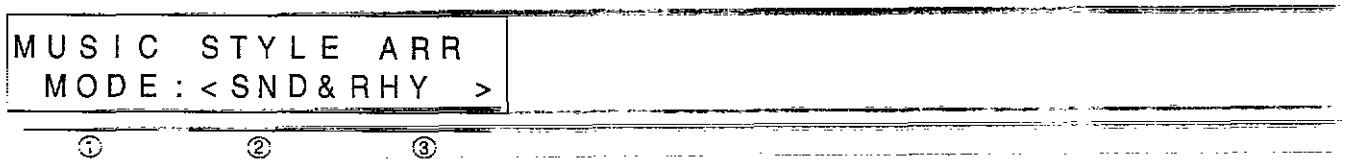


- Each time the **FILL IN 1** button is pressed, the **FILL IN 1** pattern plays, and then the music style changes in the **3** → **2** → **1** order. And each time the **FILL IN 2** button is pressed, the **FILL IN 2** pattern plays, and then the style changes in the **1** → **2** → **3** order.

MUSIC STYLE ARRANGER mode

You can define which panel settings change when the **MUSIC STYLE ARRANGER** is used.

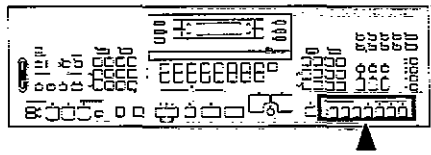
1. Press and hold the ◀ or ▶ button for a few seconds.
- The display changes to the following.



2. Select the mode with the ② or ③ buttons.
   SOUND: Only the sound changes.
   RHYTHM: Only the rhythm changes.
   SND & RHY: Both the sound and rhythm change.
   P.MEMORY: The **PANEL MEMORY** number (**1**–**3**) changes.
- If the RHYTHM or P.MEMORY mode is selected, settings such as the automatic accompaniment do not change.

- A few seconds after changing the setting, the display returns to the previous display.

Panel Memory



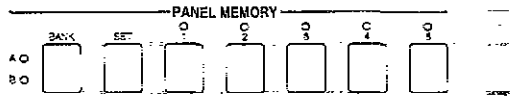
PANEL MEMORY stores the panel setup of your Keyboard, allowing you to make complex changes in seconds. Store up to 10 different panel setups (2 banks × 5 memories).

How to store the panel settings

1. Set up the desired panel settings (sounds, volumes, etc.)

2. Press the **BANK** button to select a bank (**A** or **B**).

3. With the **SET** button held down, press one of the numbered buttons of the **PANEL MEMORY** (**1** to **5**).



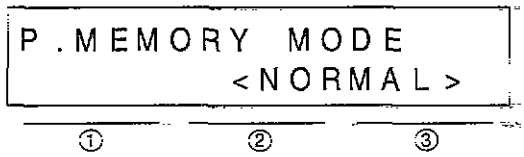
- The panel settings are now stored in the specified bank and number.

- To recall the stored settings, just select the **BANK** and press the desired **PANEL MEMORY** number button.

PANEL MEMORY mode

You can define which panel settings are stored when the **PANEL MEMORY** is used.

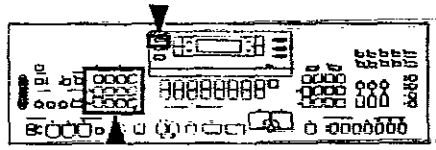
1. Press and hold the **SET** button for a few seconds.
- The display changes to the following.



2. Use the ② or ③ buttons to select the mode.
   NORMAL mode: Stores sound, effect and volume balance settings only.
   EXPAND mode: Stores the total setting including rhythm, **TRANSPOSE** and tempo.

- A few seconds after changing the setting, the display returns to the previous display.

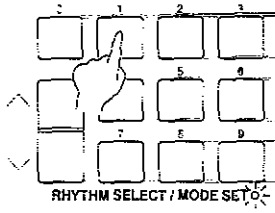
Foot switch setting



If an optional Foot Switch (sold separately) is connected, you can assign it one of several functions. The assigned function can then be controlled with the Foot Switch.

1. Press the **MODE SET** button.

2. On the **RHYTHM SELECT/MODE SET** number pad, press **1**.

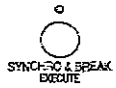


- The display changes to the following.

```
KEYBOARD SETUP
< FOOT SW SET>
```

① ② ③

3. Press the **EXECUTE (SYNCHRO & BREAK)** button.



- The display changes to the following.

```
FOOT SW SETTING
< SUSTAIN >
```

① ② ③

4. Use the ② or ③ buttons to specify the function to assign to the Foot Switch.
- Refer to the table for functions which can be assigned.

5. When you have completed making the setting, press the **MODE SET** button.

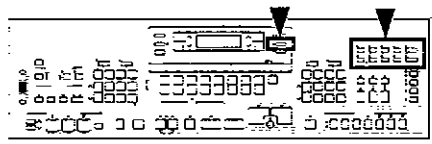
■ **Functions which can be assigned to the switch**

Function	Action
P. MEM A1 to A5 B1 to B5	 Turns on specified **PANEL MEMORY** in **BANK A** Turns on specified **PANEL MEMORY** in **BANK B**
P. M. INC	Increase **PANEL MEMORY** number by 1
STRT/STP	**START/STOP** on/off
VARI	**VARIATION** on/off
FILL 1, 2	**FILL IN** 1 or 2 on/off
ENDING	**INTRO & ENDING** on
SUSTAIN	**SUSTAIN** on/off
DIGI. EFF	**DIGITAL EFFECT** on/off
GLIDE	Glide* effect on/off
TECH-CD	**TECHNI-CHORD** on/off
PAD 1, 2 or 3	**MANUAL SEQUENCE PADS** on

*The glide effect "bends" the pitch down by about one semitone. (This effect does not work for some sounds.)

Part IV Sequencer

Outline of the Sequencer



A sequencer records your performance in a similar way to a tape recorder. You may want to record your entire performance in one go, or to build up a complex arrangement with several different parts playing together, like an orchestral score.

SEQUENCER features

■ You can change the tempo without changing the pitch

When you record your performance at a slow tempo and play it back at a faster tempo, the pitch stays the same.

■ Consistent sound

Your performance is reproduced by a sound module as it reads digital data. So, unlike a recorded tape, the sound never deteriorates no matter how many times you play back your performance.

■ Instant search

A recorded tape has to be rewound, but digital action means you can return to the beginning of your performance, or find any measure, instantly.

■ Save your performances on disks

All the data of your recorded performances can be stored on disks. The built-in Disk Drive also allows you to play commercially sold disks on your own Keyboard.

- Features and operation of the built-in Disk Drive are explained in Part VI: Disk Drive (page 64).

Popular features

■ Simplified recording method

EASY RECORD is a feature that allows you to bypass the more complex recording procedures so you can record and play back your performance quickly and easily.

- You can also record an accompaniment from the **AUTO PLAY CHORD**.

■ Create a one-man ensemble

Use the REC function to record your performance in up to 16 tracks and create your own orchestra or band.

■ Store individual data to create your song

The STEP mode makes it easy to store chord progressions for the automatic accompaniment.

Memory capacity

Expressed in terms of notes, the total number of notes which can be stored in all the **SEQUENCER** tracks is about 19,000. The remaining memory available for recording is shown on the display as a percentage (%).

- When "MEMORY FULL!!" appears on the display, no more data can be stored in the **SEQUENCER**.
- The recorded contents can be saved on a disk for recall at a later time. (Refer to page 70.)

Easy Record

Suppose you are playing the Keyboard and you wish to record and play back your performance to hear how it sounds. You can bypass the set-up procedures of the full-scale sequencer and begin recording quickly and easily.

Recording

1. Set the desired sounds, effects, rhythms, etc.

2. Press the **EASY REC** button to turn it on.

- The display changes to the following.

```
EASY  RECORD
 SURE?[NO]  [YES]
```

① ② ③

Note that when you select the EASY RECORD mode, the following settings are automatically effected.

- Tracks available for recording are selected as follows.
  1: **RIGHT 1** part
  2: **RIGHT 2** part
  3: **LEFT** part
  4: APC part
  5: CONTROL part
- When you enter the EASY RECORD mode, the contents of all **SEQUENCER** tracks will be erased. If you do not wish to erase the **SEQUENCER** tracks, press the **EASY REC** button at this time to turn it off.

3. Press either ③ [YES] button.
- The display changes to the REC display.
- Press either ② [NO] button if you wish to cancel the procedure.

4. Play the keyboard.
- Recording begins as soon as you start the rhythm or play the keyboard.

5. When you have finished recording, press the **EASY REC** button to turn it off.

Playback

1. Press the **SEQUENCER RESET (FILL IN 1)** button.

- The beginning panel settings are recalled.

2. Press the **START/STOP** button.

- Your recorded performance is played back automatically.

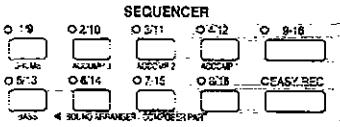
Sequencer parts

The following summary explains what is stored in each **SEQUENCER** part.

Part name [display]	Used for	Recorded contents
RIGHT1 [RT1] **RIGHT2** [RT2] **LEFT** [LFT] **PART4** [P 4] ⋮ **PART15** [P15]	Recording the performance of each part (REALTIME)	• Sound and volume settings • **DIGITAL EFFECT, SUSTAIN** on/off • **PITCH BEND** wheel operation
DRUMS [DRM] (PART 16)	Recording the drums performance with the **KEYBOARD PERC** sounds, and the **MANUAL SEQUENCE PADS** BANK 13 performance (REALTIME)	• Sound (drum KIT) and volume settings
CONTROL [CTL]	Recording changes in the panel button status (REALTIME)	• Rhythm settings and selection changes • **AUTO PLAY CHORD** status • **MUSIC STYLE ARRANGER** status • **VARIATION** on/off • **FILL IN 1, 2, INTRO & ENDING** on • **START/STOP** on/off • **TECHNI-CHORD** on/off • **PANEL MEMORY** selection changes • **TRANSPOSE** status • **MANUAL SEQUENCE PADS** operation (except for BANK 13) • **TEMPO** setting • **CONDUCTOR** status • Expression Pedal operation (separately sold option)
AUTO PLAY CHORD [APC]	Recording chords for the **AUTO PLAY CHORD** (REALTIME)	• Sound and volume settings • **DIGITAL EFFECT, SUSTAIN** on/off • **AUTO PLAY CHORD** status
CHORD [CHD]	Recording a chord progression for the **AUTO PLAY CHORD** (STEP)	• **FILL IN 1, 2, INTRO & ENDING** on • Chord progression
RHYTHM [RHY]	Settings related to rhythm (STEP)	• Rhythm settings and selection changes • **VARIATION** on/off • **FILL IN 1, 2, INTRO & ENDING** on • **START/STOP** on/off • **TEMPO** setting

- You can use the TRACK ASSIGN function to assign parts to tracks as you wish. (Refer to page 53.)
- During recording, the measure count on the display corresponds to the time signature of the selected rhythm. However, if rhythm data is stored in the RHYTHM part and that part is played back, the measure count on the display corresponds to the stored rhythm data.

■ **Factory-preset track assignment**



1: RIGHT1	9: PART5
2: RIGHT2	10: PART6
3: LEFT	11: PART7
4: APC/CHORD	12: PART8
5: CONTROL	13: PART9
6: RHYTHM	14: PART10
7: DRUMS	15: PART11
8: PART4	16: PART12

Realtime Record

With REALTIME RECORD, your performance is recorded with the timing exactly as you played it on the keyboard. This mode lets you store a tune with all the subtle nuances just as you play them.

Recording procedure

1. Set the sounds, effects, volumes, tempo, etc. for the parts you are going to record.

2. Press the **SEQUENCER** button to turn it on.

- The display changes to the following.

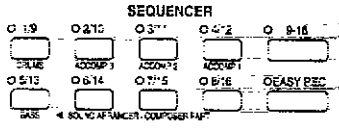
```
== SEQUENCER ===
  REC   PLAY  STEP
```

① ② ③

3. Press either ① [REC] button to select this function.
- The display looks similar to the following.

```
REC  ♩=120
M  1                99%
```

4. Use the **SEQUENCER** track buttons to specify the track for the part you are going to record. (For details about recording tracks, refer to page 47.)



- The buttons change to track buttons 9 to 16 while the **9-16** button is depressed.
- The indicator for the selected track button flashes slowly.
- You can select two or more tracks to record at one time.
- The name of the selected part is shown in the upper right portion of the display. If more than one part is selected, the name of the part selected last is shown.
- When you select a track, the panel settings you selected in step 1 are stored.

5. Use the **TEMPO** buttons to adjust the recording tempo.
- The tempo is shown in the display as "♩=."
- If you wish the tempo setting and tempo changes to be recorded as song data, store them in the CONTROL part, or store them in the RHYTHM part with the STEP mode. (Refer to page 52.)

6. Play the keyboard.
- Recording begins as soon as you start the rhythm or play the keyboard.
- The recording status is continuously updated on the display: "M" indicates the current measure number and "%" indicates the remaining memory available for recording.
- If you wish to adjust the volume of each track during recording, press the **OTHER BALANCE** button to recall the balance display. You can press the **OTHER BALANCE** button to show the track (T) displays. Press the **EXIT** button to return to the previous display.

7. When you have finished recording, press the **SEQUENCER** button to turn it off.
- If you make a mistake in recording, for example, you can erase specified tracks. (Refer to page 54.)

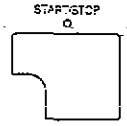
Playback

1. Turn on the track buttons for the parts you wish to play back.
- To select tracks 9 to 16, make your selection while pressing the **9-16** button.
- Tracks whose indicators are not lit will not be played back.

2. Press the **SEQUENCER RESET (FILL IN 1)** button.

- The **SEQUENCER** returns to the beginning of the song and the beginning panel settings are recalled.

3. Press the **START/STOP** button.



- The recorded performance is played back automatically.

Multi-track recording

When recording several tracks, you can record one track while listening to the track or tracks already recorded.

1. Follow the procedure to record the first track.
- When you turn the **SEQUENCER** button off, confirm that the indicator for the track you recorded is lit. Turn on the buttons for the tracks you wish to have played back.

2. Follow the procedure to record the next track.
- When the **START/STOP** button is turned on, the track recorded in step 1 is played back. You can record the next track in time with this.

3. Repeat steps 1 and 2 to record all the desired parts.

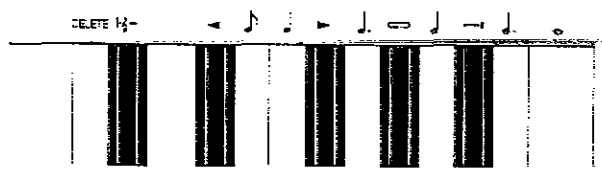
Store a chord progression or rhythm progression

You can use the step recording method to store a chord progression for the **AUTO PLAY CHORD** or changes in the rhythm selection and tempo, as well as the intro, fill-ins and the ending. During playback, the chords and rhythm then change automatically.

Store a chord progression

Store a chord progression for the **AUTO PLAY CHORD**.

- The chord length is specified with the **STEP RECORD** keys on the keyboard.



Note value keys

- Whole note
- Dotted half-note
- Half-note
- Dotted quarter-note
- Quarter-note
- Eighth-note

Reset key

Press to begin storing from the beginning.

Correction keys

- Move back one step.
- Move forward one step.

Repeat key

Press to end the chord-storing procedure and to specify automatic repeat playback of the stored progression.

End key

Press after the whole chord progression has been stored.

DELETE key

DELETE Press to erase data.

- To erase all the data from the current track, while pressing the **DELETE** key, press the End key (⊣).

■ Example of storing a chord progression

Measure 1	2	3		4	
C	C	F	G7	C	Am
𝅝	𝅝	𝅗𝅥	𝅗𝅥	𝅗𝅥	𝅗𝅥

1. Press the **SEQUENCER** button to turn it on.
2. Press either ③ [STEP] button.
   - The display changes to the following.

```
STEP REC
Track select
```

3. Using the track buttons, select the track to which the CHORD part has been assigned.
   - The display looks similar to the following.

```
STEP CHORD REC
M  1
```

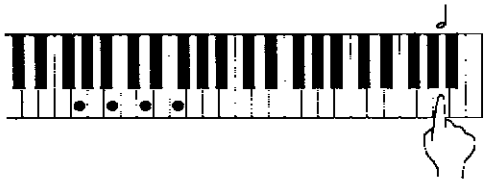
4. Store the chords.

<Measure 1, measure 2>
While playing a C chord with your left hand, press the 𝅝 key one time with your right hand.

- A "beep" tone indicates that the chord has been successfully stored.
- The measure number (M) automatically advances, in accordance with the specified note value, to the number of the next unrecorded measure.

<Measure 3>
(1) While playing an F chord, press the 𝅗𝅥 key one time.

(2) While playing a G7 chord, press the 𝅗𝅥 key one time.



<Measure 4>
(1) While playing a C chord, press the 𝅗𝅥 key one time.

(2) While playing an Am chord, press the 𝅗𝅥 key one time.

- You can press the **INTRO & ENDING** button or a **FILL IN** button on the panel to store the desired pattern. (An **INTRO** or **COUNT INTRO** can be stored only at the beginning.) To specify a chord for the **INTRO** or **ENDING** pattern, while pressing the chord keys, press the **INTRO & ENDING** button. To specify a chord for the **FILL IN**, store the chord after turning on the **FILL IN 1** or **FILL IN 2** button.
- Store a rest by pressing a note value key without specifying a chord.
- Chords can also be specified in the **ONE FINGER** mode.
- If the **ON BASS** button is on, you can specify chords like "D on C" (except when the **ONE FINGER** mode is active).

5. At the end of the chord progression, press the End key (⟞).
- The Keyboard exits the recording mode.
- You can press the **INTRO & ENDING** button instead of the End key (⟞) for an automatic ending pattern at the end of the performance during playback.
- During playback, playback of the recorded chord progression stops at this point. For automatic repeat playback of the chord progression, press the Repeat key (⟲) instead of the End key (⟞).

- When you play back the track for the CHORD part, the chords of the automatic accompaniment change in accordance with the stored chord progression.

■ TRACK CLEAR
To erase all data from the current track, on the STEP CHORD REC display, while pressing the **DELETE** key, press the End (⟞) key.

■ Correct the recorded chord progression
1. Follow the procedure to select the STEP CHORD REC display.

2. Use the ◀ and ▶ Correction keys to look for the recorded data.
- To go to the end of the chord progression, while pressing the Reset key (𝄞⁻), press the ◀ key.
- The lengths of rests are indicated by the respective rest value × its multiplier.

Example:

𝄽 ..... 1-beat rest (quarter rest)

𝄾 ..... 1/2-beat rest (eighth rest)

𝄽 × 1 + 𝄾 ... 1-1/2-beat rest (dotted quarter rest)

𝄽 × 10 ..... 10-beat rest

3. Correct the chord data.

Chord data
When the chord name is displayed, you can press the **DELETE** key to erase the data and then store a new chord.

- If you do not erase the displayed data before entering new chord data, the new data is inserted at this point, and the displayed data is merely shifted by the note value of the new chord.
- Rests can also be erased. Each time the **DELETE** key is pressed, the rest is erased in units of $\frac{1}{4} \times 1$. The $\frac{1}{4}$ rest is erased last.

Control data
The name of the stored function (INTRO, FILL, etc.) is displayed. You can press the **DELETE** key to erase the data which is displayed.

Store a rhythm progression

Changes in the rhythm selection and other related data can be stored in the RHYTHM part.

1. Press the **SEQUENCER** button to turn it on.

2. Press either ③ [STEP] button.
- The display changes to the following.

```
STEP  REC
 Track  select
```

3. Using the track buttons, select the track to which the RHYTHM part has been assigned.
- The display looks similar to the following.

```
STEP  RHYTHM  REC
M   1      Samba
```

① ② ③

4. Use the ① buttons to go to the measure you wish to record.

5. Use the buttons on the operation panel to store the rhythm data.
- Data which can be stored:
  START/STOP
  Changes in the rhythm selection
  COUNT INTRO, INTRO, FILL IN, VARIATION, ENDING
  Tempo changes
- Be sure to store the **START/STOP** data in the measure in which the rhythm starts/stops.
- If you are storing a **COUNT INTRO** or **INTRO**, store this data before the **START/STOP** data.

6. Repeat steps 4 and 5 to continue storing the rhythm progression.

7. At the end of the rhythm progression, press the End key.
- The keyboard exits the recording mode.
- If you press the Repeat key, the recorded rhythm progression will be repeated during playback.

■ **Correct the recorded rhythm progression**

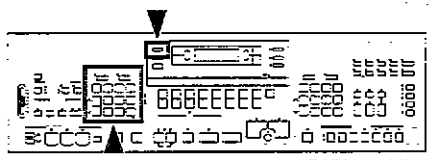
1. Follow the procedure to select the STEP RHYTHM REC display.

2. Use the ◀ and ▶ keys to go to the measure you wish to modify.
- To go to the end of the rhythm progression, while pressing the Reset key (⏮), press the ◀ key.

3. Correct the rhythm data.
- Press the DELETE key to erase the displayed data.
- If you select a rhythm with a different time signature, the time signature of all subsequent measures will also change.
- If data has already been recorded in other tracks, you cannot select a rhythm with a different time signature.

■ **TRACK CLEAR**
To erase all data from the current track, on the STEP RHYTHM REC display, while pressing the DELETE key, press the End (⏹) key.

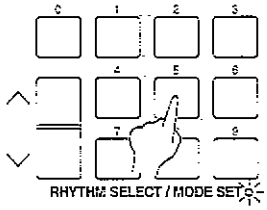
Track Assign



You can use the TRACK ASSIGN function to assign parts to tracks as you wish.

1. Press the **MODE SET** button.

2. On the **RHYTHM SELECT/MODE SET** number pad, press **5**.



- The display looks similar to the following.

```
TRACK  ASSIGN
<TR  1><RT 1>
```

① ② ③

3. Use the ① buttons to select the track.

4. Use the ② buttons to select the part for the specified track.
- Select one of the following parts: RT 1 (RIGHT 1), RT2 (RIGHT 2), LFT (LEFT), P (PART) 4 to 15, DRM (DRUM), CTL (CONTROL), APC, CHD (CHORD) and RHY (RHYTHM).
- For an explanation of each **SEQUENCER** part, refer to page 47.
- When a part other than the CONTROL, APC, CHORD or RHYTHM part is assigned, the track assign procedure is completed at this point.
- Either the CONTROL part or APC part can be assigned to a track, but not both.
- The CONTROL, APC, CHORD and RHYTHM parts cannot be assigned to more than one track.

5. When assigning the CONTROL, APC, CHORD or RHYTHM part, press either ③ [OK] button.
- A confirmation display appears. Press either ③ [YES] button to confirm that you wish to execute the specified track assignment. Or press either ② [NO] button to stop the track assignment.

```
TR  1 : RT 1 - - > CHD
  SURE ? [NO]   [YES]
```

① ② ③

6. Repeat steps 3 to 5 for the other tracks, as necessary.

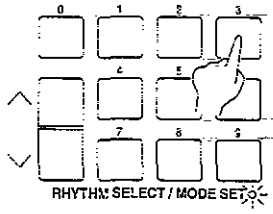
7. When you have finished making the settings, press the **MODE SET** button again.

Sequencer clear

You can erase the contents of selected tracks, for example, when you have made an error in your performance and wish to record the track again.

1. Press the **MODE SET** button.

2. On the **RHYTHM SELECT/MODE SET** number pad, press **3**.



- The display looks similar to the following.

```
SEQ  CLEAR
  <TR  1>          [OK]
```

① ② ③

3. Use the ① buttons to specify the track you wish to erase.
- Select from the following: all tracks [ALL], track 1 to 16 [TR 1 to TR16].
- If [ALL] is selected, all the tracks are specified.

4. Press either ③ [OK] button.
- The display looks similar to the following.

```
SEQ  TR  1  CLEAR
SURE?  [NO]  [YES]
```

① ② ③

5. Press either ③ [YES] button.
- If you wish to cancel the erase procedure, press the ② [NO] button at this time.
- The recorded data is erased from the specified track(s), and after "COMPLETED!" is shown on the display, the instrument returns to the normal performance mode.

6. Repeat steps 1 to 5 for other tracks as desired.

Quantize

The QUANTIZE function can correct the timing of your performance after it has been recorded. If the rhythm is slightly out of sync or inexact, it will automatically be corrected to the specified quantize level.

1. Press the **MODE SET** button.

2. On the **RHYTHM SELECT/MODE SET** number pad, press 4.
- The display looks similar to the following.

```
QUANTIZE
          <♩  >  [OK]
          ①   ②   ③
```

3. Use the ② buttons to specify the quantize level.
- Select from ♩, ♪, 𝅘𝅥𝅯, 𝅘𝅥𝅰, ♪3, 𝅘𝅥𝅯3, 𝅘𝅥𝅰3.
(A 3 denotes a triplet-type note.)

4. Press either ③ [OK] button.
- The display changes to the following.

```
TRACK  TOP   END
<T10><M100-M112>
  ①    ②     ③
```

5. Use the ① buttons to specify the track number.
- If ALL is selected, all the tracks are modified.
- This function does not work for the CONTROL, RHYTHM or CHORD part.

6. Use the ② buttons to specify the start point (measure number).

7. Use the ③ buttons to specify the end point (measure number).

8. Press the **EXECUTE (SYNCHRO & BREAK)** button.
- The display changes to the following.

```
T10/M100-M112/♩
 SURE?[NO]  [YES]
  ①   ②     ③
```

9. Press either ③ [YES] button.
- If you wish to cancel the function, press either ② [NO] button.
- When the operation has been successfully completed, "COMPLETED!" is shown on the display.

10. When you have finished making the settings, press the **MODE SET** button again.

Play

You can specify the measure from which you wish playback to begin.

1. Press the **SEQUENCER** button to turn it on.

2. Press either ② [PLAY] button.
- The display looks similar to the following.

```
PLAY♩=120
M123  [FWD]  [BAL]
 ①     ②      ③
```

3. Turn on the tracks you wish to have played back.

4. Use the ① buttons to specify the beginning measure (M) of playback.
- If you do not know the measure number, you can quick-search for the desired measure while listening to the recorded performance by holding down either ② [FWD] button. (These buttons do not work during playback.)
- You can press either ③ [BAL] button and adjust the volume of each part or track.

5. Press the **START/STOP** button.
- The recorded performance is played back from the specified measure.
- When playback is begun from a measure in which an **INTRO**, **FILL IN**, etc. is recorded, the corresponding function does not work.

6. To stop playback, press the **START/STOP** button again.
- If the **START/STOP** button is pressed again, playback will continue from the point it was interrupted.

7. When playback is finished, turn off the **SEQUENCER** button.

Medley Play

You can have the songs on a disk played back continuously in order.

1. Insert the disk into the Disk Drive.

2. Press the **MODE SET** button.

3. On the **RHYTHM SELECT/MODE SET** number pad, press **6**.
- The display looks similar to the following.

```
MEDLEY SET
 <  1>TO<15>[SRT]
```
① ② ③

4. Use the ① buttons to specify the number of the first song you wish to have played.

5. Use the ② buttons to specify the number of the last song you wish to have played.

6. Press either ③ [SRT] button.
- The songs from the specified range are repeatedly played back in order.
- The name of the currently playing song is shown on the display.

```
MEDLEY PLAY
 01:ABCDEF[STOP]
```
① ② ③

- If you press the **START/STOP** button during medley play, the song currently playing will stop, and playback continues from the next recorded song on the disk.

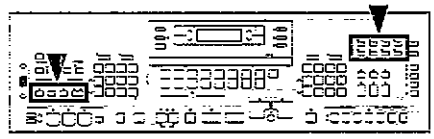
7. To stop medley play, press either ③ [STOP] button.

- The procedure for saving your **SEQUENCER** performances on a disk is explained in Part VI: Disk Drive (page 64).
- Data which has been saved in the Standard MIDI File format cannot be played in a medley performance.

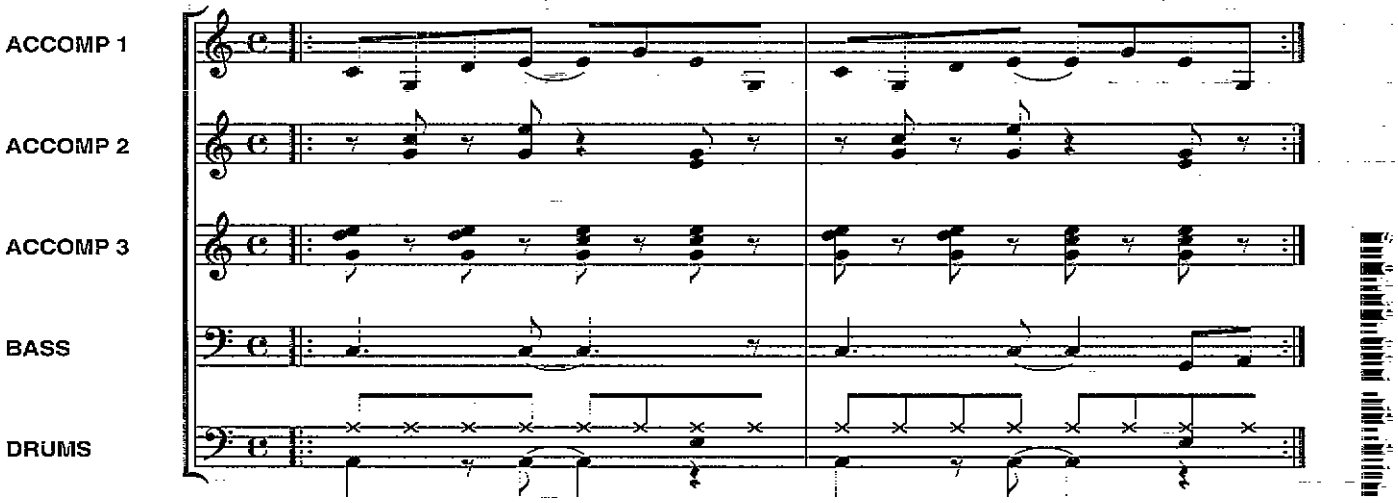
8. When medley play is finished, press the **MODE SET** button again.

Part V Composer

Outline of the Composer



The **COMPOSER** enables you to create your own accompaniment patterns or to edit preset accompaniment patterns. Your original pattern is then stored in a memory and can be used just like the preset rhythms.

■ **Example of a rhythm pattern**

Components of a rhythm pattern

You can store up to 12 different rhythms (6 each in banks **A** and **B**).

- Each pattern is comprised of five parts: **DRUMS**, **BASS** and **ACCOMP 1**, **2** and **3**.
- You can create **INTRO**, **FILL IN** and **ENDING** patterns for each bank (**A** and **B**). These patterns are played back when the **COMPOSER** mode is set to EXPAND. (Refer to page 62.)

Two ways to record in the COMPOSER

There are two ways to create and record a rhythm.

■ **Edit a preset rhythm**
Use the COPY function to copy a preset rhythm to a MEMORY, change parts of it, and then store it as a new rhythm.

■ **Create a completely new rhythm**
Clear the memories and compose a completely new rhythm from scratch.

Memory capacity
Expressed in terms of notes, the total number of notes which can be stored in all the **COMPOSER** memories is about 8600. The remaining memory available for recording is shown on the display as a percentage (%).

- When "MEMORY FULL!!" appears on the display no more data can be stored in the **COMPOSER**.
- The recorded contents can be saved on a disk for recall at a later time. (Refer to page 70.)

COMPOSER LOAD

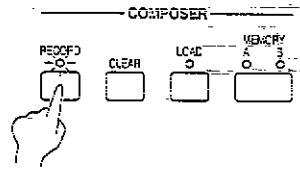
The prerecorded **COMPOSER** rhythms on the accessory disk can also be used with your Keyboard. (Refer to page 66.)

Setting up to create a rhythm pattern

First decide whether you are going to "Edit a preset rhythm pattern" or "Create a completely new rhythm." Below are the instructions for preparing to edit a preset rhythm pattern. If you are going to create a completely new rhythm pattern, follow the instructions on page 59.

Edit a preset rhythm pattern

1. Press the **RECORD** button of the **COMPOSER** to turn it on.



- The display looks similar to the following.

```
= COMPOSER REC =
 [A]   [B] [SETUP]
```
① ② ③

2. Press either ③ [SETUP] button.
- The display looks similar to the following.

```
COMPOSER SETUP
COPY   MODE  BEND
```
① ② ③

3. Press either ① [COPY] button.
- The display looks similar to the following.

```
PATTERN COPY
00:8Stnd→A-MEM1
```
① ② ③

4. Select a rhythm number to copy from and a bank and pattern to copy to.
- Use the ① buttons to select the rhythm number, and the ③ buttons to select the bank and pattern.
- You can also use the **RHYTHM SELECT** buttons to select the rhythm.
- Select one of the following rhythm patterns: A-MEM1–6, A-INTRO, A-F IN1, 2, A-ENDNG, B-MEM7–12, B-INTRO, B-F IN1, 2, B-ENDNG

5. Press the **EXECUTE (SYNCHRO & BREAK)** button.
- "COPY COMPLETED!" is shown on the display and copying ends.

6. Press the **EXIT** button to view the COMPOSER REC display.

7. Select the bank to which you copied the rhythm pattern (the memory bank you selected in step 4: A or B).
- The display looks similar to the following.

```
Select Memory
 <A-MEM6  >  [OK]
```
① ② ③

8. Use the ① and ② buttons to select the memory to which you copied the rhythm pattern (the memory you selected in step 4).

9. Press either ③ [OK] button.
- The display looks similar to the following.

```
PATTERN A-MEM6
[CLR] [NAME] [SET]
```
① ② ③

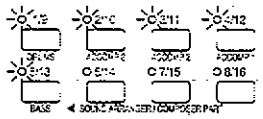
10. If you wish to name your new rhythm pattern, press ② for [NAME].
- FILL IN, INTRO and ENDING patterns cannot be named.
- If you do not input a name for your rhythm pattern, the name becomes the same as the original rhythm from which you copied.
- The display looks similar to the following.

```
NAMING A-MEM6
<Heavy Metal  R>
```
① ② ③

11. Use the **TRANSPOSE** buttons to move the cursor. Use the ①, ② and ③ buttons to select the character. Repeat these steps to input the whole name (up to 13 characters).

12. Press the **EXIT** button.

13. Use the **COMPOSER PART** buttons to select the rhythm part you want to record first.



- Select from **DRUMS**, **ACCCMP 1** to **3**, and **BASS**.
- The pattern you copied and the metronome sound start, and recording begins. (Refer to page 61.)

Create a completely new rhythm

1. Press the **RECORD** button of the **COMPOSER** to turn it on.
- The display looks similar to the following.

```
= COMPOSER REC =
  [A]   [B] [SETUP]
   ①     ②     ③
```

2. Select the bank to record to (① [A] or ② [B]).
- The display looks similar to the following.

```
Select Memory
 <A-MEM6 >  [OK]
   ①     ②     ③
```

3. Use the ① and ② buttons to select the rhythm component you are going to create.

4. Press either ③ [OK] button.
- The display looks similar to the following.

```
PATTERN A-MEM6
[CLR] [NAME] [SET]
  ①     ②     ③
```

5. Press either ① [CLR] button.
- The following confirmation display appears. Press either ③ [YES] button to execute the function, or press either ② [NO] button to cancel the function.

```
A-MEM6   Clear
SURE? [NO]  [YES]
  ①     ②     ③
```

6. Press either ② [NAME] button.
- FILL IN, INTRO and ENDING patterns cannot be named.
- The display looks similar to the following.

```
NAMING A-MEM6
<      Clear     >
  ①     ②     ③
```

7. Use the **TRANSPOSE** buttons to move the cursor. Use the ①, ② and ③ buttons to select the character. Repeat these steps to input the whole name (up to 13 characters).

8. Press the **EXIT** button.
- The display looks similar to the following.

```
PATTERN A-MEM6
[CLR] [NAME] [SET]
  ①     ②     ③
```

9. Press either ③ [SET] button.
- The display looks similar to the following.

```
SET     MEAS  T.SIG
        <4>   <4/4>
  ①     ②     ③
```

10. Adjust the various recording settings.

[MEAS]
Use the ② buttons to specify the number of measures in your repeating rhythm pattern (1 to 8).

[T.SIG]
Use the ③ buttons to specify the time signature (1/4 to 8/4).
- The number of measures and time signature can be changed only when the pattern has been cleared.

- Press the lower **TEMPO** button. The display changes to the following.

```
CHORD        Acc_Bas
 <C  ><Maj><7_N>
  ①     ②     ③
```

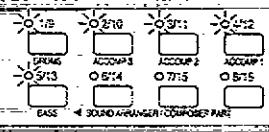
[CHORD]
Use the ① buttons to specify the root note of the chords you wish to record. Use the ② buttons to specify the type of chord you wish to record (Min or Maj).

[Acc-Bas]
Use the ③ buttons to specify the type of phrase progression for the **ACCOMP** and **BASS** parts.
- N = normal progression, 7 = seventh. Select for the combined **ACCOMP** and **BASS** parts.

- Press the upper **TEMPO** button to return to the previous display.

11. When all the settings have been completed, press the **EXIT** button.

12. Use the **COMPOSER PART** buttons to select the rhythm part you want to record first.



- Select from **DRUMS**, **ACCOMP 1** to **3**, and **BASS**.
- The metronome sound starts, and recording begins. (Continue to the next section.)

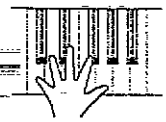
Record your rhythm pattern

Store each part of the rhythm pattern as you perform it on the keyboard.

Recording procedure

```
REC  ♩=120  M2  60%
QT<---> SOLO<OFF>
 ①      ②     ③
```

3. Record the part.



1. Adjust the tempo.
- The tempo can be freely adjusted when you play back the rhythm pattern, so record at the tempo which is easiest for you to play.

2. On the **SOUND/VARIATION SELECT** number pad, select the sound.
- For the **DRUMS** part, select sounds from the **KEYBOARD PERC** sounds (**95** to **99**). For the **ACCOMP** and **BASS** parts, select other sounds.

- The specified number of measures are repeatedly played back, during which time any newly played notes are added to those already recorded. The current measure number is shown on the display as "M".
- Record the performance in C major for correct chord progressions during playback of the **BASS** and **ACCOMP** parts. To record the performance in a different scale, specify a different key and chord beforehand on the SET display. (Refer to page 59.)
- **DIGITAL EFFECT**, **SUSTAIN** and **PITCH BEND** effects are also recorded for the **BASS** and **ACCOMP** parts.

- Press the **OTHER BALANCE** button if you wish to adjust the volume of each part during recording. The volume-setting display appears. Adjust the volume of each part. (These settings are not stored.) Press the **EXIT** button to return to the previous display.

Recording functions

■ QUANTIZE

Press either ① [QT] button to set the desired quantize level to smooth out any unevenness in the timing of your performance. Each time this button is pressed, the indicated level changes.

- Select from 𝅘𝅥𝅯3, 𝅘𝅥𝅯, 𝅘𝅥𝅮3, – – (off) , 𝅘𝅥𝅯, 𝅘𝅥𝅮3, 𝅘𝅥𝅮, ♩. (A 3 denotes a triplet-type note.)

■ PART CLEAR

Press the **COMPOSER CLEAR** button if you wish to erase all recorded contents of the currently selected part.

■ SOLO

When you press either ③ [SOLO] button to select <ON>, only the part which is currently being recorded is played back.

■ PERC ERASE

When the **DRUMS** part is selected, the **DRUMS** part can be cleared instrument by instrument. Hold down the **PERC ERASE (SPLIT POINT)** button and specify the instrument sound to be deleted by pressing the corresponding instrument key on the keyboard, after which only the specified instrument will be erased for as long as this button is kept pressed.

4. When you have completed recording one part, select the next part to record with the **COMPOSER PART** buttons.

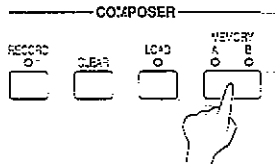
5. Repeat steps 1 through 4 to record all the parts of the rhythm.

6. When you have finished recording the rhythm, press the **RECORD** button in **COMPOSER** section to turn it off.

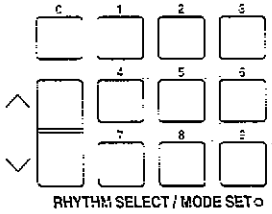
Maximum simultaneous tones
The maximum number of notes which can sound simultaneously for each part is 8. Even if you record more notes at one timing, only 8 are produced when the pattern is played back.

Playback

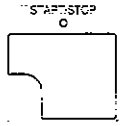
1. Press the **MEMORY** button of the **COMPOSER** to select the bank in which the desired rhythm is stored (**A** or **B**).



2. Use the **RHYTHM SELECT** buttons to select the number of the desired rhythm. (For bank **A**, select from 01 to 06; for bank **B**, select from 07 to 12.)



3. Press the **START/STOP** button.



- The **DRUMS** part begins to play back.
- The **BASS** and **ACCOMP** parts are played back when you use the **AUTO PLAY CHORD**.

Creating your own intro, fill-in and ending patterns

You can create and play back your original intro, fill-in and ending patterns.

COMPOSER mode

1. Press the **RECORD** button of the **COMPOSER** to turn it on.
- The display looks similar to the following.

```
= COMPOSER REC =
 [A]  [B] [SETUP]
 ①    ②    ③
```

2. Press either ③ [SETUP] button.
- The display looks similar to the following.

```
COMPOSER SETUP
COPY  MODE  BEND
 ①    ②     ③
```

3. Press either ② [MODE] button.
- The display looks similar to the following.

```
COMPOSER MODE
        <EXPAND>
 ①      ②    ③
```

4. Use the ② and ③ buttons to select the mode.

■ **NORMAL mode**
When a **FILL IN** button or the **INTRO & ENDING** button is pressed during playback, the corresponding pattern for a preset rhythm is played back.

■ **EXPAND mode**
When a **FILL IN** button or the **INTRO & ENDING** button is pressed during playback, the corresponding pattern you created is played back.

Recording

After setting the **COMPOSER** mode to EXPAND, use the following procedure.

1. Press the **EXIT** button to view the COMPOSER REC display.

2. Select the bank in which to record (① [A] or ② [B]).

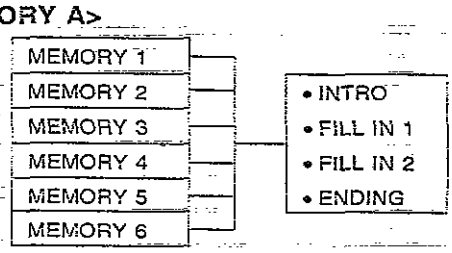
3. On the [Select Memory] display, select the rhythm component you are going to create.
- For each bank, select from INTRO, F IN1, F IN2, ENDNG.

4. Press either ③ [OK] button.

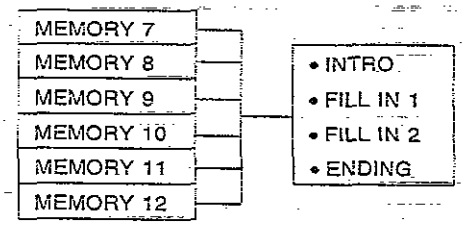
5. Follow the procedure to record the rhythm. (Refer to page 60.)
- **FILL IN**, **INTRO** and **ENDING** patterns cannot be named.
- Repeat the above procedure for each pattern as desired.

- Only one each **FILL IN 1**, **FILL IN 2**, **INTRO** and **ENDING** pattern can be created for each of the two **MEMORY** banks (**A** and **B**). The fill-in patterns, etc. for each bank are used for all the basic rhythms in the same **MEMORY** bank.
- All the patterns in a **MEMORY** bank should have the same time signature.

<MEMORY A>



<MEMORY B>



Bend Range

Adjust the amount of pitch change applied to the **ACCOMP** parts and the **BASS** part when the **PITCH BEND** wheel is operated during **COMPOSER** recording.

1. Press the **RECORD** button of the **COMPOSER** to turn it on.
- The display looks similar to the following.

```
= COMPOSER REC =
  [A]   [B] [SETUP]
```
① ② ③

2. Press either ③ [SETUP] button.
- The display looks similar to the following.

```
COMPOSER SETUP
COPY   MODE   BEND
```
① ② ③

3. Press either ③ [BEND] button.
- The display looks similar to the following.

```
BEND RANGE
             < 12 >
```
① ② ③

4. Use the ③ buttons to specify the range (0 to 12).
- Increments are in semitones.

Part VI Disk Drive

Outline of the Disk Drive function

The Disk Drive enables you to store **COMPOSER** memories, **SEQUENCER** data etc. for future use.

Internal memory and Disk Drive

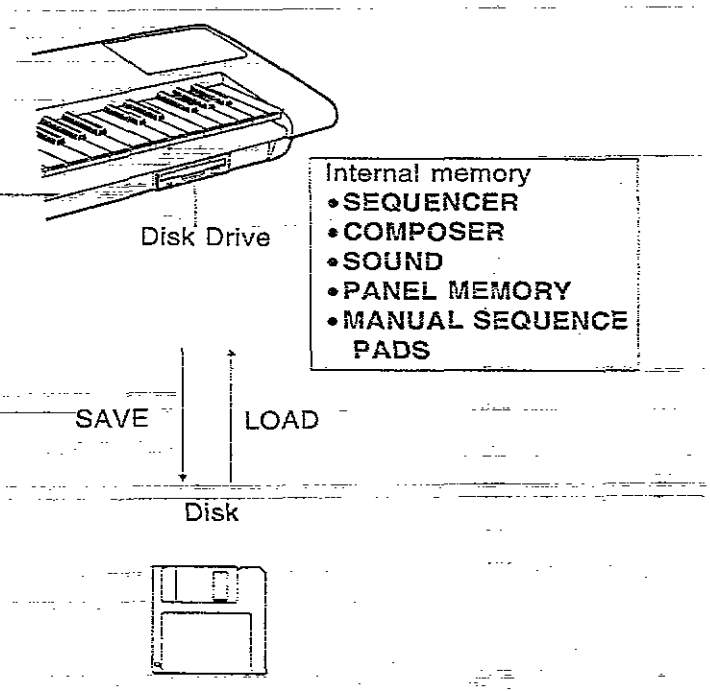
The storable internal memory is fixed at a limited capacity, but this external memory device expands the storable memory infinitely.

- You can use 3.5 inch 2DD (720 KB) or 2HD (1.44 MB) disks.
- Specific file formats are handled as follows.

		SAVE	LOAD
TECHNICS File		○	○
Standard MIDI File	FORMAT 0	○	○
	FORMAT 1	×	○

FORMAT 0: There is one track on the disk, and it contains the 16 MIDI channels.

FORMAT 1: There is an unlimited number of tracks on the disk, each of which can contain the 16 MIDI channels.



■ **Playback of commercial software**

Disks recorded using the Disk Drive of this instrument can, of course, be played back on your Keyboard. But this instrument also reads song data from disks recorded in the Standard MIDI File format, enabling you to play commercial song disks on this instrument. In addition, by saving this instrument's **SEQUENCER** data in the Standard MIDI File format, you can play it back on an external sequencer.

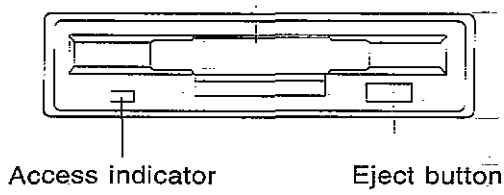
About Standard MIDI Files

"Standard MIDI File" is a standardized data format which makes it possible for music data to be exchanged among different sequencers. Data stored in this format on sequencers of different models can be played back on this Keyboard, and vice versa.

- Only files with the ".MID" extension can be loaded.
- No more than 128 KB of data can be loaded into the Keyboard.

Warning: Standard MIDI Files ensure the compatibility of data such as key on, key off, velocity, program number. It does not guarantee 100% faithful reproduction of recorded music which is replete with such data. For exact playback of music, it may be necessary to perform extensive adjustments of all the sound generator settings. As you the listener are the ultimate judge of what sounds best, you should perform such adjustments to your satisfaction.

Main parts of the Disk Drive

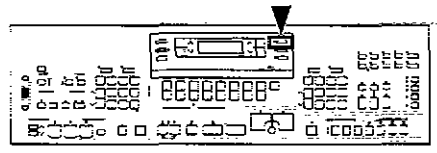


Eject button
Press to remove the disk from the Disk Drive.

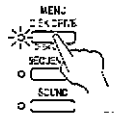
Access indicator
Lights when data is being loaded from or saved to disk.

- To prevent data loss, do not remove the disk from the Disk Drive or turn off the power when the access indicator is lit.

Outline of procedure



1. In the **MENU** section, press the **DISK DRIVE** button to turn it on.



- The display changes to the following.

```
== DISK DRIVE ==
SAVE  FORMAT  LOAD
 ①     ②       ③
```

2. To select an item, press the corresponding balance button below the display.

SAVE (page 70)
Press either ① button to select this function. Save data from the Keyboard memory to a disk in the Technics format or Standard MIDI File format.

LOAD (page 67)
Press either ③ button to select this function. Load data from a disk into the Keyboard memory in the Technics format or Standard MIDI File format.

FORMAT (page 69)
Press either ② button to select this function. Format new disks or erase the contents of recorded disks so they can be used by this Keyboard.

3. Select the desired menu and follow the procedures on the corresponding display.
- Press the **EXIT** button to return to the menu display.

4. When you have finished setting the functions, press the **DISK DRIVE** button to turn it off.

Using the included disk

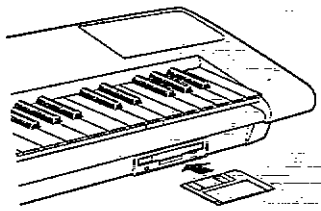
Stored on the accessory "RHYTHM PATTERNS" disk are 10 additional rhythms. You can load these patterns into your Keyboard memory and use them just like the preset rhythms.

COMPOSER LOAD

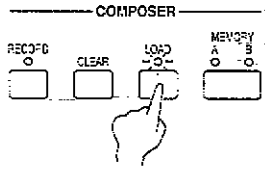
Load the data from the disk into your Keyboard's **COMPOSER MEMORY A.**

- When the load procedure is executed, any data previously stored in the **COMPOSER** memories is erased. If you wish to preserve the contents of the **COMPOSER**, be sure to save the data to a disk before beginning the load procedure. (Refer to page 70.)
- For each rhythm, a normal pattern and a variation pattern are both available.
- The names of the rhythms are printed on the disk.

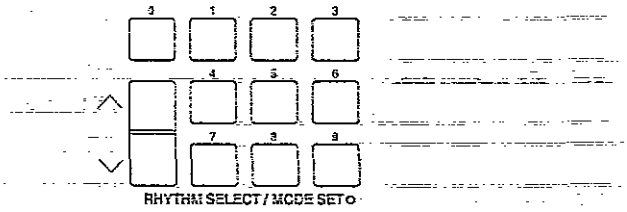
1. Insert the accessory disk into the Disk Drive. Push it all the way in until you hear a click.



2. Press the **LOAD** button of the **COMPOSER** to turn it on.



3. Use the **RHYTHM SELECT** number pad to select the number of the pattern on the disk (01 to 10).



- The load operation begins.
- When the load procedure is finished, "COMPLETED!" is shown on the display.

4. To select the rhythm pattern, use the **COMPOSER**'s **MEMORY** button to select **A**, and the **RHYTHM SELECT** number pad to select the memory number to play.
- Select memory number **01** if you wish to play the normal pattern. Select memory number **02** if you wish to play the variation pattern.
- The other **COMPOSER** memories are empty.

5. Press the **START/STOP** button.
- The rhythm pattern begins to play back.
- The **AUTO PLAY CHORD** can also be used.
- **INTRO, FILL IN** and **ENDING** patterns matching the selected rhythm are also produced.

- You can use the same procedure to load only **COMPOSER** data from the performance data you saved to a disk. This procedure is equivalent to selecting CMP on the FILE LOAD display. (Refer to page 67.)

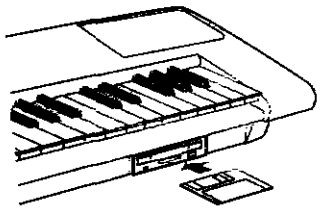
Loading data

Recall (load) the data from the disk to the Keyboard's memories.

WARNING: The load procedure causes any data which is currently stored in the relevant memories to be erased.

DISK LOAD (TECHNICS)

1. Insert the disk with the stored data into the Disk Drive.



2. On the **DISK DRIVE** menu display, select LOAD. (Refer to page 65.)
- The display looks similar to the following.

```
DISK LOAD
[SMF]          [TECH]
 ①    ②        ③
```

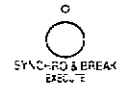
3. Press either ③ [TECH] button.
- The display looks similar to the following.

```
FILE LOAD
 01:AAA___.<ALL>
 ①    ②      ③
```

4. Use the ① or ② buttons to select the file number with the desired data.
- Files in which data is currently stored are indicated by the file name following the file number.

5. Use the ③ buttons to specify the kind of data you wish to load from the disk to the Keyboard.
- Select from All [ALL], **SEQUENCER** [SEQ], **COMPOSER** [CMP], **SOUND** memory [SND], **PANEL MEMORY** [PNL], **MANUAL SEQUENCE PADS** [MSP].
- The kind of data which was specified during the SAVE procedure is automatically selected. Skip this step if you do not wish to change the selection. The selection can be changed only if ALL was selected for the type when the data was saved to disk. (Refer to page 70.)

6. Press the **EXECUTE (SYNCHRO & BREAK)** button.



- The LOAD operation begins.
- When the operation has been successfully completed, "COMPLETED!" is shown on the display.
- If song data was loaded, you can press the **START/STOP** button to begin playback.

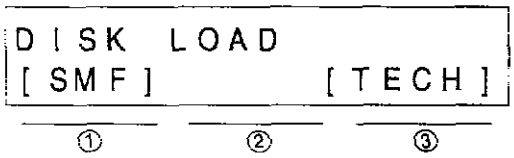
> You can also access the FILE LOAD display quickly by pressing and holding the **DISK DRIVE (DISK LOAD)** button for a few seconds.

DISK LOAD (SMF)

Data which has been saved in the Standard MIDI File format can be loaded into this Keyboard's **SEQUENCER**.

1. Insert the disk on which data is saved in Standard MIDI File format into the Disk Drive.

2. On the **DISK DRIVE** menu display, select LOAD. (Refer to page 65.)
- The display looks similar to the following.



3. Press either ① [SMF] button.
- The display looks similar to the following.

4. Use the ①, ② or ③ buttons to select the file number with the desired data.
- Files in which data is currently stored are indicated by the file name following the file number.

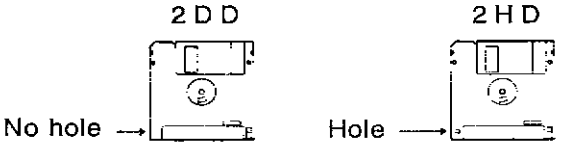
5. Press the **EXECUTE (SYNCHRO & BREAK)** button.
- The LOAD operation begins.
- When the operation has been successfully completed, "COMPLETED!" is shown on the display.
- Press the **START/STOP** button to begin playback of the song data.

Formatting a disk

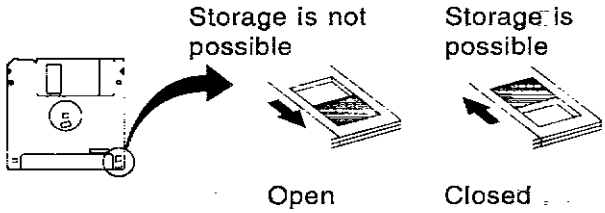
New disks can be used only after they have been formatted. Follow the procedure below to format a new disk or erase the contents of a recorded disk.

DISK FORMAT

- This procedure clears the entire contents of the disk.
- Reformat a disk if it cannot be saved to or loaded from properly because of exposure to a magnetic field.
- You can use 3.5 inch 2DD or 2HD disks.
- Be sure to specify the type of format which is suitable for the disk.
- How to distinguish to two disk types:

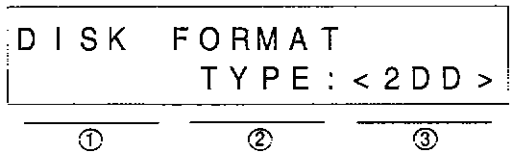


- Although 2HD disks can hold more data and are convenient for quick loading and saving, 2DD disks are generally used for musical instruments. Therefore, you may not be able to use your 2HD disk data with other musical instrument models.
- To format the disk, the write-protect window must be closed, as illustrated.



1. Insert the disk into the Disk Drive slot. Push it all the way in until you hear a click.

2. On the **DISK DRIVE** menu display, select FORMAT. (Refer to page 65.)
- The display changes to the following.



3. Use the ③ buttons to select the type of format (2DD or 2HD).
- Be sure to select the type which is the same as your disk type.

4. Press the **EXECUTE (SYNCHRO & BREAK)** button.
- The following confirmation display appears.

5. Press either ③ [YES] button.
- If you wish to cancel the function, press either ② [NO] button.
- If the ③ [YES] button is pressed, disk formatting begins.
- After about one or two minutes, formatting is completed, and "COMPLETED!" is shown on the display, and then the instrument returns to the normal performance mode.

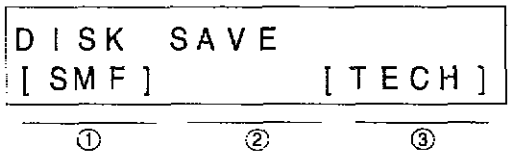
- Once a disk has been formatted, the disk drive will automatically discern the disk type when loading or saving.

Saving data

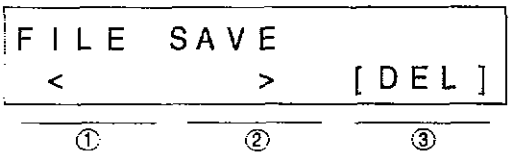
Use the Disk Drive to save the recorded data and panel settings on a disk.
- A formatted disk should be in place in the Disk Drive.
- It is a good idea to save Technics File format data and Standard MIDI File format data in separate disks.

DISK SAVE (TECHNICS)

1. On the **DISK DRIVE** menu display, select SAVE. (Refer to page 65.)
- The display changes to the following.

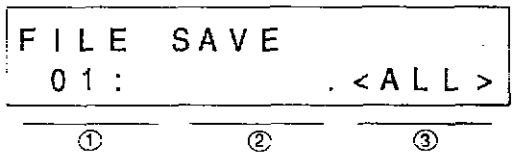


2. Press either ③ [TECH] button.
- The display looks similar to the following.



3. Type a name for the new data file (up to 6 characters).
- Use the **TRANSPOSE** buttons to move the cursor to the character position. Use the ① and ② buttons to select the character. Repeat these steps to type the whole name.

4. Press the **EXECUTE (SYNCHRO & BREAK)** button.
- The display looks similar to the following.



5. Use the ① or ② buttons to select the file number in which to save the data (01 to 20).
- Files in which data is currently stored are indicated by the file name following the file number.

- The maximum number of songs which can be saved may be less than 20 if you are saving many songs which use a lot of memory.
- For effective use of disk memory, if it is not necessary to save the **COMPOSER** data, clear the **COMPOSER** memories before saving to disk.
- More data can be saved by using a 2HD disk.

6. Use the ③ buttons to specify the kind of data you wish to store in the data file on the disk.

ALL: All the following data is saved.
SEQ: Only **SEQUENCER** data
CMP: Only **COMPOSER** data
SND: Only **SOUND** memory data
PNL: Panel status and data stored in the **PANEL MEMORY**
MSP: Only **MANUAL SEQUENCE PADS** data

- The MASTER TUNING setting is not saved.

7. Press the **EXECUTE (SYNCHRO & BREAK)** button.
- When the operation has been successfully completed, "COMPLETED!" is shown on the display, and then the instrument returns to the normal performance mode.
- If you attempt to save data to a file number in which data is currently saved, the display changes to the confirmation display. Press either ③ [YES] button if you wish to continue with the SAVE procedure, or press either ② [NO] button if you wish to cancel the procedure.

■ FILE delete

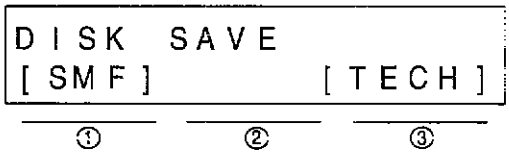
To erase a song from a disk, on the FILE SAVE display, press either ③ [DEL] button. Next, on the FILE DELETE display, select the file number and then press the **EXECUTE** button. The display changes to the confirmation display. Press either ③ [YES] button to erase the song, or press either ② [NO] button to cancel the procedure.

DISK SAVE (SMF)

The data from this instrument's **SEQUENCER** can be saved in the Standard MIDI File format.

- Data saved on this instrument can be used on another instrument.
- What you can save in the Standard MIDI File format is ordinary performance data, such as note data. Data such as **SEQUENCER** data for the chord and rhythm parts, **COMPOSER** data, **PANEL MEMORY** data, etc. is not saved. If you wish to save this kind of data, save the performance in the Technics format.
- Standard MIDI Files are generally saved in the SMF mode, but can be saved in the TECHNICS mode.

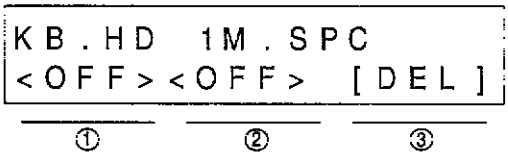
1. On the **DISK DRIVE** menu display, select SAVE. (Refer to page 65.)
- The display looks similar to the following.



2. Press either ① [SMF] button.
- The display looks similar to the following.

3. Type a name for the new data file (up to 8 characters).
- Use the **TRANSPOSE** buttons to move the cursor to the character position. Use the ① and ② buttons to select the character. Repeat these steps to type the whole name.
- To prevent accidentally overwriting a file you might wish to keep, it is recommended that you avoid using the numbers from 01 to 20 as the first two letters of the name.

4. Press either ③ [OPTION] button.
- The display looks similar to the following.



5. Make the settings.

■ KB. HD: Keyboard header

By pressing either ① button to select <ON>, you can save the sound, volume and other settings for each part as data at the beginning of the file. If <OFF> is selected, this data is not saved.

■ 1M. SPC: One-measure space

When there is various data other than performance data stored at the beginning of a file, the start of playback may be delayed. This can be avoided by inserting a one-measure space before the beginning of the performance. Press either ② button to select <ON> and insert a one-measure space. Select <OFF> if you do not wish to insert the space.

- When set to <ON>, a space is added each time a file is saved. Therefore, if you have already saved a file once with the 1M. SPC set to <ON>, please set it to <OFF> each time the file is subsequently saved.

6. Press the **EXECUTE (SYNCHRO & BREAK)** button.
- The display looks similar to the following.

7. Use the ①, ② or ③ buttons to select the file number in which to save the data.
- Files in which data is currently stored are indicated by the file name following the file number.
- To save in a new file, select a blank line.

8. Press the **EXECUTE (SYNCHRO & BREAK)** button.
- When the operation has been successfully completed, "COMPLETED!" is shown on the display.
- If you attempt to save data to a file number in which data is currently saved, the display changes to the confirmation display. Press either ③ [YES] button if you wish to continue with the SAVE procedure, or press either ② [NO] button if you wish to cancel the procedure.

■ **FILE delete**
To erase a song from a disk, on the KB.HD 1M.SPC display, press either ③ [DEL] button. Next, on the MIDI FILE DELETE display, select the file number and then press the **EXECUTE** button. The display changes to the confirmation display. Press either ③ [YES] button to erase the song, or press either ② [NO] button to cancel the procedure.

Single data-type load

With the normal DISK LOAD procedure, all the recorded **COMPOSER** or **SOUND** memory data is loaded at one time. However, you can load specific **COMPOSER** or **SOUND** data into the memories you specify.

LOAD SINGLE COMPOSER

Load the desired **COMPOSER** data from a disk into a specific **COMPOSER** memory.

1. Insert the disk with the stored **COMPOSER** data into the Disk Drive.

2. On the **DISK DRIVE** menu display, select LOAD. (Refer to page 65.)
- The display changes to the DISK LOAD display.

3. Use the **TEMPO** buttons to show the following display.

```
LOAD  SINGLE
COMPOSER      SOUND
```
① ② ③

4. Press the ① [COMPOSER] button.
- The display looks similar to the following.

```
LD.SINGLE  COMP
<01:AAA___>  [OK]
```
① ② ③

5. Use the ① or ② buttons to select the file number to load.

6. Press either ③ [OK] button.
- The display looks similar to the following.

```
01:AAA___.ALL
 <A-M1  >→<B-M12>
```
① ② ③

7. Use the ① buttons to select the memory number to load.

8. Use the ③ buttons to specify the memory to load to.

9. Press the **EXECUTE (SYNCHRO & BREAK)** button.
- The LOAD operation begins.
- When the operation has been successfully completed, "COMPLETED!" is shown on the display.

LOAD SINGLE SOUND

Load the desired **SOUND** data from a disk into a specific **SOUND** memory.

1. Insert the disk with the stored **SOUND** data into the Disk Drive.

2. On the **DISK DRIVE** menu display, select LOAD. (Refer to page 65.)
- The display changes to the DISK LOAD display.

3. Use the **TEMPO** buttons to show the following display.

```
LOAD  SINGLE
COMPOSER      SOUND
```
① ② ③

4. Press either ③ [SOUND] button.
- The display looks similar to the following.

```
LD.SINGLE  SOUND
<01:AAA___>  [OK]
```
① ② ③

5. Use the ① or ② buttons to select the file number to load.

6. Press either ③ [OK] button.
- The display looks similar to the following.

```
01:AAA___.ALL
 <MEM  1>→<MEM12>
```
① ② ③

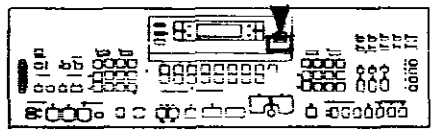
7. Use the ① buttons to select the memory number to load.

8. Use the ③ buttons to specify the memory to load to.

9. Press the **EXECUTE (SYNCHRO & BREAK)** button.
- The LOAD operation begins.
- When the operation has been successfully completed, "COMPLETED!" is shown on the display.

Part VII Adjusting the sounds

Sound mode



The **SOUND** mode is used for making fine adjustments to the functions related to sound, such as tone, volume and effects.

Selecting the function

1. In the **MENU** section, press the **SOUND** button to turn it on.

- The display changes to the following menu display.

```
= =  SOUND MENU  = =
<PART SETTING>
```

① ② ③

2. Use the ①, ② and ③ buttons to select the desired menu.

PART SETTING (page 75)
Set the various sound attributes for each part.

TOUCH & TUNE (page 76)
Adjust the amount of keyboard touch response, and fine-tune the pitch of this instrument, and select the type of tuning.

TECHNI-CHORD (page 76)
Select the **TECHNI-CHORD** harmony style.

LEFT HOLD (page 77)
Set the mode which determines how the **LEFT** part sounds during an **AUTO PLAY CHORD** performance.

REVERB & PHASER (page 78)
Select the type and depth of the **REVERB** and **PHASER**.

CHORUS & FLANGER (page 78)
Select the type and depth of the **CHORUS** and **FLANGER**.

3. Press the **EXECUTE (SYNCHRO & BREAK)** button.

- The display changes to the corresponding setting display.

4. Follow the procedures on the corresponding setting display (explained on the following pages).
- To go to another menu, use the **EXIT** button to go back to the menu display.

5. When you have finished setting the functions, press the **SOUND** button to turn it off.

■ A word about parts
The organization of the sound parts is as follows.

Normal parts
RIGHT 1, **RIGHT 2**, **LEFT**, PART 4 to 16
- PART 16 is reserved for **DRUMS** part.
- PART 4 to 16 are used in **SEQUENCER** and MIDI functions.

AUTO PLAY CHORD parts
ACCOMP 1 to **3**, **BASS**, **DRUMS**, CHORD, R. BASS
- For information concerning CHORD and R. BASS, refer to page 38.

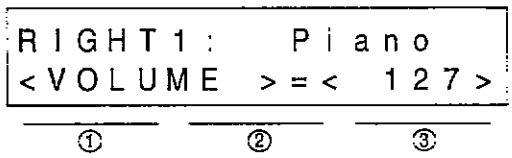
MANUAL SEQUENCE PADS part
MSP

Adjusting the settings

Adjust the settings after selecting the function.

PART SETTING

Set the various sound attributes for each part.



1. Use the **TEMPO** buttons to select the part.
- If necessary, use the **SOUND/VARIATION SELECT** number pad to select the sound.

2. Use the ① buttons to select the item.
- The settings you can adjust may differ depending on the selected part and sound.

[VOLUME]: Adjust the volume for the part (0 to 127).
- The volume of BANK 13 of the **MANUAL SEQUENCE PADS** is adjusted with the PART 16 volume adjustment.

[SUSTAIN]: Specify the length of the sustain (1 to 8).
- For some sounds, the length of the sustain does not change even if the number is changed.

[PAN]: Adjust the stereo balance of the part (0 to 127).
- At 0 the sound is completely to the left, at 127 completely to the right. At 64, the sound is at the center.
- Even at the same numerical value, the stereo balance may differ slightly depending on the sound.

[REV. DEP]: Select the depth of the **REVERB/PHASER** (0 to 127).

[CHO. DEP]: Specify the depth of the **CHORUS/FLANGER** (0 to 127).
- At 0, the effect is off.
- If the **CHORUS/FLANGER** button is subsequently pressed, the new setting will be canceled and the factory-preset setting recalled.

[KEYSFT]: Specify the amount of key shift (–12 to +12).
- A value of 1 means a shift of one semitone. To raise (or lower) the pitch one octave, set the value to +12 (or –12).
- A – value lowers the pitch, and a + value raises it.

[TUNE]: Fine-tune the pitch of the part (–128 to +127).

[BENDRNG]: Set the amount of pitch change when the **PITCH BEND** wheel is used (0 to 12).
- Increments are in semitones. A value of 12 is one octave.

[GLIDE]: Turn the glide function of the Foot Switch (separately sold option) to ON or OFF for the part.
- Different functions can be assigned to the Foot Switch. (Refer to page 44.)

[SUS. PDL]: Use the Foot Switch to apply the sustain effect (ON/OFF).

[KEY.SCL]: Turn KEY SCALING to ON or OFF.

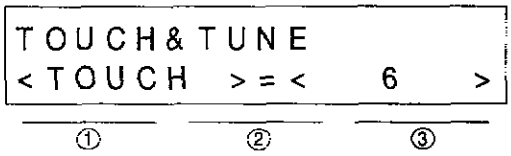
3. Use the ③ buttons to make the setting.

4. Repeat steps 2 and 3 for the other items, as desired.

5. Repeat steps 1 to 4 for the other parts, as desired.

TOUCH & TUNE

Adjust the amount of keyboard touch response, fine-tune the pitch of this instrument, and select the type of tuning.



1. Use the ① buttons to select the item.

[TOUCH]: Adjust the degree of touch sensitivity (0 to 9).
- The larger the number, the greater the degree of touch sensitivity.
- When set to 0, the volume is the same no matter how hard or softly the keyboard is played.

[TUNING]: Fine-tune the pitch of the entire instrument (427.3 to 453.0). This is convenient for when playing along with other instruments.

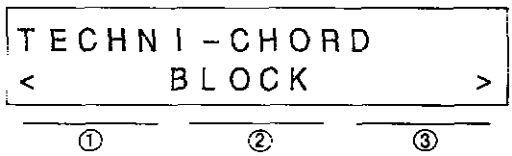
[TYPE]: Select the type of tuning.
E.TEM: One octave is divided into pitches of 12 equally spaced intervals.
PIANO: Standard acoustic piano tuning, in which the lower pitches are tuned slightly lower and the higher pitches are tuned slightly higher.

2. Use the ③ buttons to set the item.

3. Repeat steps 1 and 2 for each item.

TECHNI-CHORD

Select the desired harmony style for the **TECHNI-CHORD**.

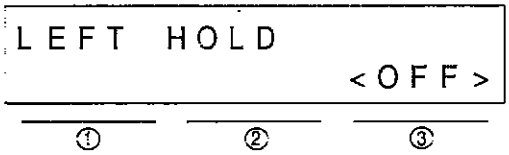


1. Use the ①, ② and ③ buttons to select the harmony style.
- Select from CLOSE, OPEN1, OPEN2, DUET, COUNTRY, THEATRE, HYMN, BLOCK, BIG BAND BRASS, BIG BAND REEDS, OCTAVE, HARD ROCK and FANFARE.
- For a detailed explanation of the different harmony styles, refer to the separate "REFERENCE GUIDE" provided.
- When the OCTAVE, HARD ROCK or FANFARE style is selected, the **TECHNI-CHORD** functions even when the chord is not specified.

You can also access this display by pressing and holding the **TECHNI-CHORD** button.
- In this case, a few seconds after you change the setting, the display returns to the previous display.

LEFT HOLD

Select the mode to specify how the left section of the keyboard sounds during an **AUTO PLAY CHORD** performance.



Use the ③ buttons to set the mode to ON or OFF.

■ **OFF**

	ONE FINGER	FINGERED	PIANIST
When rhythm is off	The chord note specified by the pressed key is heard (*CHORD* part).	The **LEFT** part sound and chord note specified by the pressed keys are heard.	The **LEFT** part notes and the chord note are not heard (the **RIGHT** part sound is heard for the entire keyboard).
When rhythm is on	The **LEFT** part notes and the chord note are not heard.	The **LEFT** part sound of the pressed keys is heard.	

- The **LEFT** part can be heard only when the **LEFT** button in the **CONDUCTOR** section is on.
- When you select the **ONE FINGER** mode, the **LEFT** button in the **CONDUCTOR** section turns off automatically.

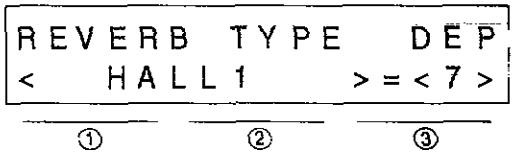
■ **ON**

	ONE FINGER	FINGERED	PIANIST
When rhythm is on/off	The specified chord note is produced in the **LEFT** part sound.	The **LEFT** part sound of the pressed keys is heard.	The **LEFT** part notes and the chord note are not heard (the **RIGHT** part sound is heard for the entire keyboard).

- The **LEFT** part can be heard only when the **LEFT** button in the **CONDUCTOR** section is on.
- When the **MEMORY** button is on, even when the keys are released, the **LEFT** part sound continues to play.

REVERB & PHASER

Select the type and depth of the **REVERB** and **PHASER**.



1. Use the **TEMPO** buttons to select the effect.
- Select the REVERB or PHASER setting display.

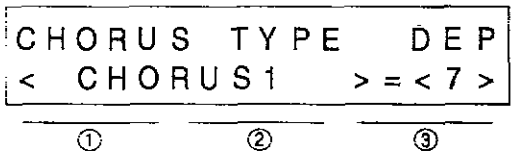
2. Use the ① or ② buttons to select the type.
- Select from the following types.
  REVERB: ROOM1, ROOM2, HALL1, HALL2, HALL3, ECHO1, ECHO2
  PHASER: PHASER1, PHASER2

3. Use the ③ buttons to adjust the depth of the effect (1 to 9).

You can also access this display by pressing and holding the **REVERB/PHASER** button.
- In this case, a few seconds after you change the setting, the display returns to the previous display.

CHORUS & FLANGER

Select the type and depth of the **CHORUS** and **FLANGER**.



1. Use the **TEMPO** buttons to select the effect.
- Select the CHORUS or FLANGER setting display.
- Note that either the **CHORUS** effect or the **FLANGER** effect is selected for all the parts in common.

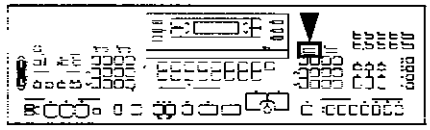
2. Use the ① or ② buttons to select the type.
- Select from the following types.
  CHORUS: CHORUS1, CHORUS2, CHORUS3
  FLANGER: FLANGER1, FLANGER2, FLANGER3

3. Use the ③ buttons to adjust the depth of the effect (1 to 9).

You can also access this display by pressing and holding the **CHORUS/FLANGER** button.
- In this case, a few seconds after you change the setting, the display returns to the previous display.

Part VIII Creating sounds

Sound Edit



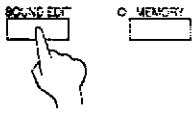
SOUND EDIT enables you to create your own new sound by altering one of the preset sounds. Your new sound can then be stored in one of the sound memory locations.

Select **TONE SHUFFLE** for a quick and simple sound change, or select specific attributes, such as **OCTAVE** and **VIBRATO**, to adjust individually.

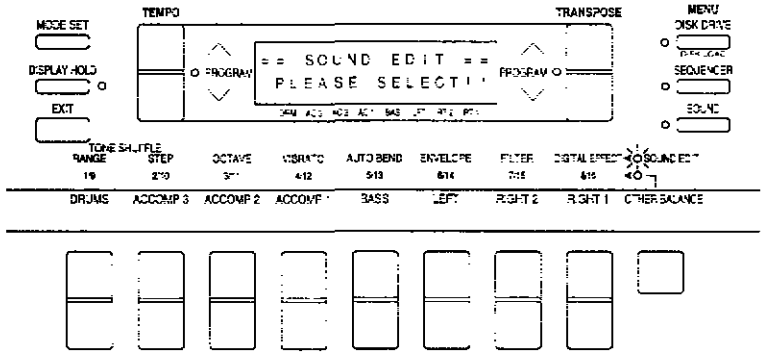
Edit and save a sound

1. On the **SOUND/VARIATION SELECT** number pad, select a preset sound on which to build your new sound.
- The **KEYBOARD PERC** sounds (**95** to **99**) cannot be edited.

2. Press the **SOUND EDIT** button.



3. Use the balance buttons below the display to modify each attribute.



- The edit functions of the balance buttons are as follows (from left to right).

TONE SHUFFLE: An editing method in which various elements of the sound automatically change, and you just choose the sound you like.

RANGE: Specify the degree of change in the sound (INI, 1 to 30).
- Changing the **RANGE** setting does not affect the sound unless the **STEP** button is also pressed.

STEP: After setting the **RANGE**, change the sound until you find the one you like.

OCTAVE: Shift the octave range (–2 to +2).

VIBRATO: Set the vibrato depth (OFF, INI, 1 to 30).

AUTOBEND: Specify the amount of pitch change during the attack period (OFF, INI, 1 to 30).

ENVELOPE: Specify how the volume changes over time. (INI, 1 to 30).

FILTER: Set the filter effects (THRU, INI, 1 to 30).

DIGITAL EFFECT: Change the degree of **DIGITAL EFFECT** (OFF, INI, 1 to 30).

- If a function is set to OFF, the effect is not applied to the sound.
- INI signifies the factory-preset setting.
- When set to THRU, no filter effect is applied.
- *Play the keyboard to check the sound.*

4. When you are finished editing the sound, press either **TEMPO** button.
- The display looks similar to the following.

5. Type a new name for your sound.
- Use the **TRANSPOSE** buttons to move the cursor to the character position. Use the ①, ② and ③ buttons to select the character. Repeat these steps to type the whole name.

6. Press the **EXECUTE (SYNCHRO & BREAK)** button.
- The display looks similar to the following.

7. Use the ①, ② and ③ buttons to select a memory number for your new sound (1 to 36).

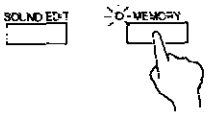
8. Press the **EXECUTE (SYNCHRO & BREAK)** button.
- The display looks similar to the following.

9. Press the ③ [YES] button.
- Press the ② [NO] button if you wish to cancel the procedure.
- When a ③ [YES] button is pressed, "WRITE COMPLETED!" is shown on the display and the edited sound is stored in the specified memory number. The instrument returns to the normal performance mode.

Select a new sound

You can select your original sounds just like the factory-preset sounds.

1. In the **SOUND/VARIATION SELECT** section, press the **MEMORY** button to turn it on.



2. On the **SOUND/VARIATION SELECT** number pad, select the number of the desired memory (**01** to **36**).
- Your original sound is recalled.

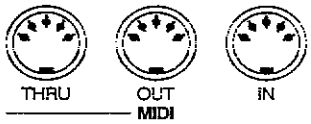
Part IX MIDI

What is MIDI?

MIDI (Musical Instrument Digital Interface) is the international standard for digital communication of electronic musical instrument data. This means that any equipment which has a MIDI terminal—such as electronic musical instruments and personal computers—can easily exchange digital data with other MIDI equipment without resorting to complicated conversions or connections.

MIDI terminals

(On the rear panel)

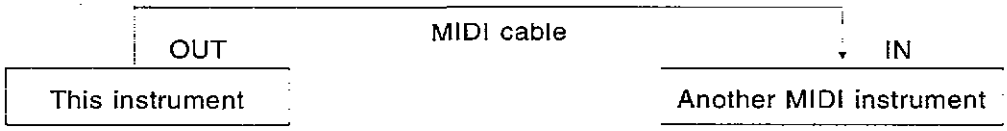


IN: The terminal by which this instrument receives data from other equipment.
OUT: The terminal that transmits data from this instrument to other equipment.
THRU: The terminal that transfers data from the **IN** terminal directly.

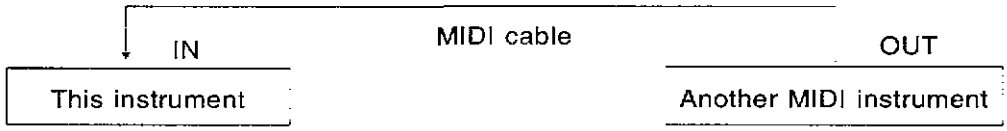
- For these connections, use a commercially available MIDI cable.

Connection examples

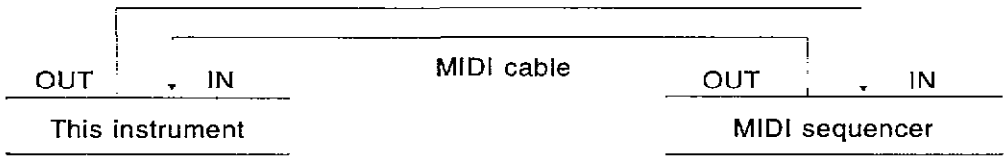
■ **To generate sound from a connected instrument by playing this instrument**



■ **To generate sound from this instrument by operating a connected instrument**

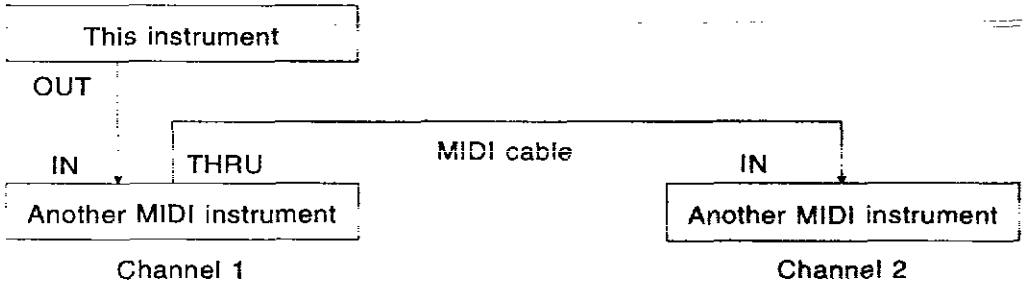


■ **To connect with a MIDI sequencer or a personal computer**



MIDI channels

Many different kinds of performance data are sent using just one MIDI cable. This is possible because MIDI signals are sent and received through 16 different "basic channels" (numbered 1 to 16). In order for the exchange of data to take place, the channels on the transmission side must match the channels on the receiving side. This characteristic also makes it possible to link multiple sound generators and to control each by matching specific channels.



The following kinds of data can be transmitted/received.

■ **NOTE data**
This is the most basic kind of MIDI data which is exchanged, and is used to specify which keys are played and how hard they are played.

NOTE NUMBER: Number specifying which key is played.
NOTE ON: Specifies that a key is played.
NOTE OFF: Specifies that a key is released.
VELOCITY: Specifies how hard a key is struck.

- MIDI notes are assigned numbers from 0 to 127, with middle C (C3) as 60. Note pitches are in semitone increments, with the higher numbers assigned to the higher pitches.

■ **PROGRAM CHANGE**
This is sound change data. When a different sound is selected on the transmitting instrument, the sound on the receiving instrument also changes.

■ **CONTROL CHANGE**
These are volume, sustain, effect, etc. data used to enhance performance expression. Each function is distinguished by its control number, and the function which can be changed by the control differs depending on the instrument.

■ **EXCLUSIVE data**
This is sound data, etc. particular to a specific instrument model. This data can also be transmitted and received by the DUMP function.

- For details, refer to the separate "REFERENCE GUIDE" provided.

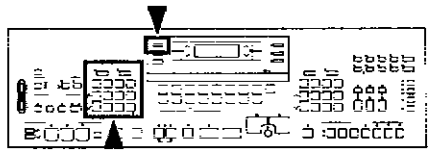
GENERAL MIDI

GENERAL MIDI (GM) is the standard which enables MIDI data exchange between different models or equipment of different manufacture. Program change numbers and their corresponding sounds, percussion instrument sounds, note numbers, etc. are data-compatible between equipment using this standard. Song data created on the equipment of one manufacturer can be played back on the equipment of a different manufacturer, as long as both conform to the GENERAL MIDI standard. This instrument conforms to this standard and can be used as a GENERAL MIDI sound generator. (Refer to page 88.)

Equipment which conforms to GENERAL MIDI standards is indicated by the following logo.

GENERAL MIDI

Outline of MIDI functions

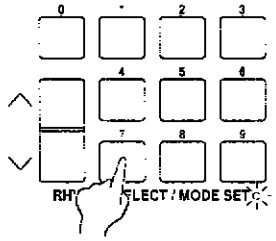


Select the various settings which are used for MIDI operation of the instrument.

Outline of procedure

1. Press the **MODE SET** button.

2. On the **RHYTHM SELECT/MODE SET** number pad, press **7**.



- The display looks similar to the following.

```
= =  M I D I  M E N U  = =
<  P A R T  S E T T I N G  >
```

① ② ③

3. Use the ①, ② or ③ buttons to select the item.
- Select from the following:

PART SETTING (page 84)
Set the various sound attributes for each part.
- BASIC CHANNEL
- OCTAVE SHIFT
- LOCAL CONTROL

CONTROL MSG. (page 85)
Enable or disable the exchange of various control data.
- PROGRAM CHANGE
- BANK SELECT
- BEND
- VOLUME
- EXPRESSION
- PAN
- SUSTAIN
- EFFECT & REVERB
- MODULATION
- TUNING
- BEND RANGE
- RESET ALL CONTROLLERS

OTHER SETTING (page 85)
Mode settings
- REALTIME COMMAND
- CLOCK
- PANEL MEMORY
- NOTE ONLY
- PROGRAM CHANGE MODE
- DRUMS MODE
- RIGHT1 INPUT
- APC INPUT
- TECHNI-CHORD OUTPUT
- DRUMS OUTPUT
- APC OUTPUT
- SONG SELECT
- SETUP LOAD
- TRANSPOSE
- INTRO
- APC CONTROL
- REALTIME EXCLUSIVE
- NON-REALTIME EXCLUSIVE

MIDI PRESETS (page 87)
Establish the optimum settings depending on how this instrument is connected to other equipment.

BULK DUMP (page 87)
Settings related to SYSTEM EXCLUSIVE data exchange.

4. Press the **EXECUTE** (**SYNCHRO & BREAK**) button.
- The display changes to the setting display for the selected item.

5. Perform the setting procedures (explained on the following pages).
- To go to another menu, use the **EXIT** button to go back to the menu display.

6. When you have finished adjusting the settings, press the **MODE SET** button again.

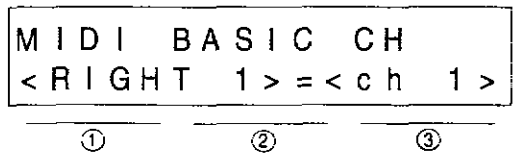
Setting the functions

Adjust the settings after selecting the function.

PART SETTING

Set the BASIC CHANNEL, OCTAVE SHIFT and LOCAL CONTROL settings for each part.

1. Select the PART SETTING display. (Refer to page 83.)
- The display looks similar to the following.



2. Use the **TEMPO** buttons to select an item.
- Select from the following:

■ BASIC CHANNEL (MIDI BASIC CH)

Assign a MIDI basic channel to each part (OFF, 1 to 16).
- A part which has been set to OFF cannot be used to transmit or receive MIDI data.

Default channel settings

Part	Channel	Part	Channel
RIGHT 1	1	PART 14	14
RIGHT 2	2	PART 15	15
LEFT	3	PART 16	
PART 4	4	(DRUMS)	16
PART 5	5	CONTROL	OFF
PART 6	6	AUTO PLAY CHORD	
PART 7	7		
PART 8	8	ACCOMP 1	OFF
PART 9	9	ACCOMP 2	OFF
PART 10	10	ACCOMP 3	OFF
PART 11	11	BASS	OFF
PART 12	12	DRUMS	OFF
PART 13	13	CHORD	OFF

■ OCTAVE SHIFT (OCT. SHIFT)

Set the octave shift value for key notes transmitted from this instrument (–3 to 3).
- The transmitted and received octave shifts are linked. For example, if the transmitted octave shift is set to 1, the received octave shift is automatically set to –1.

■ LOCAL CONTROL (LOCAL CNT.)

Specify whether this instrument's sound generator is enabled when MIDI data is transmitted.

ON: The performance from this instrument is transmitted as MIDI data and also sounds from this instrument.

OFF: The performance from this instrument is transmitted as MIDI data but does not sound from this instrument.

3. Use the ① buttons to select the part.

4. Use the ③ buttons to change the setting.

5. Repeat steps 3 and 4 for each part as desired.

6. Repeat steps 2 to 5 for other functions.

CONTROL MESSAGE

Enable or disable the exchange of various control data.

1. Select the CONTROL MSG display. (Refer to page 83.)
- The display looks similar to the following.

```
CONTROL MESSAGE
<PRG. CNG  >=<ON  >
 ①      ②      ③
```

2. Use the ① and ② buttons to select an item.
- Select from the following:
  PRG. CNG (PROGRAM CHANGE)
  BANK SEL. (BANK SELECT)
  BEND
  VOLUME
  EXPRESS. (EXPRESSION)
  PAN
  SUSTAIN
  EFF&REV (EFFECT & REVERB)
  MODULAT. (MODULATION)
  TUNING
  BEND RNG (BEND RANGE)
  RST. CNT. (RESET ALL CONTROLLERS)

3. Use the ③ buttons to change the setting.
  ON: Data exchange is enabled.
  OFF: Data exchange is disabled.

- The BANK SELECT setting is effective only when PROGRAM CHANGE is set to ON.
- The TUNING setting is effective for both the TUNING and KEY SHIFT setting.

4. Repeat steps 2 and 3 for other functions.

OTHER SETTING

Select the various settings which are used for MIDI operation of the instrument.

1. Select the OTHER SETTING display. (Refer to page 83.)
- The display looks similar to the following.

```
MIDI  OTHERS
<REALTIME>=<OFF>
 ①      ②      ③
```

2. Use the ① buttons to select an item.

REALTIME (REALTIME COMMAND)
  ON: Rhythm and **SEQUENCER** start/stop, continue, and song position pointer data can be transmitted/received.
  OFF: This data cannot be transmitted/received.

CLOCK
  INT: This instrument's internal CLOCK is used to control the performance. The CLOCK of the connected equipment is disabled.
  MID: The CLOCK of the connected equipment is used to control the performance. This instrument's CLOCK is disabled.
  - When MID is selected, the tempo is displayed as [– – –] and the rhythm and **SEQUENCER** are disabled until the CLOCK signal is received from the connected instrument.

P.MEM (PANEL MEMORY)
  ON: Changes in the **PANEL MEMORY** number selection are exchanged as PROGRAM CHANGE data for the **RIGHT 1** part.
  OFF: This data cannot be transmitted/received.
  - The PROGRAM CHANGE numbers for **PANEL MEMORY** are BANK **A**: 0 to 4, BANK **B**: 5 to 9.

NOTE ONLY
  ON: Only note on/off data is exchanged.
  OFF: Other data is also exchanged.

P.CNG MD (PROGRAM CHANGE MODE)
  NOR: The PROGRAM CHANGE numbers correspond to the sound numbers as shown on the panel list.
  TEC: PROGRAM CHANGE numbers are standardized among all Technics models which are set to this mode. The PROGRAM CHANGE number assigned to a given sound on one model is assigned to the same sound on all models which are set to the same mode.
  GM: PROGRAM CHANGE numbers follow the GM standard.
- The PROGRAM CHANGE numbers for each mode can be found in the separate "REFERENCE GUIDE" provided.

DRUMS MD (DRUMS MODE)
NOR: Keyboard percussion instrument sounds correspond to this instrument's key NOTE numbers.
TEC: Keyboard percussion instrument sounds correspond to the same key NOTE numbers for connected Technics models set to this type. (The closest instrument sound is automatically selected.)
GM: Keyboard percussion instrument sounds follow the GM standard.

RIGHT1 IN (**RIGHT 1** INPUT)
Specify how note data is handled when it is received on the channel for the **RIGHT 1** part.
CND: The **CONDUCTOR** settings of this instrument determine which part the data is used for.
DIR: It is treated only as **RIGHT 1** part data.

APC IN (APC INPUT)
ON: Input data for the **ACCOMP 1, 2, 3, BASS, DRUMS** and **CHORD** parts is received.
OFF: This data is not received.
- Basic channels should be assigned to the automatic accompaniment parts before exchanging data.

TECH. OUT (TECHNI-CHORD OUTPUT)
ON: Keyboard notes generated by the **TECHNI-CHORD** function are also transmitted.
OFF: Only key note data of the pressed keys is transmitted.

DRUM OUT (DRUM OUTPUT)
ON: Data from the **DRUMS** part is transmitted.
OFF: Data from the **DRUMS** part is not transmitted.

APC OUT (APC OUTPUT)
ON: The data for the **ACCOMP 1, 2, 3, BASS** and **CHORD** parts is transmitted.
OFF: The data for the above parts is not transmitted.
- Basic channels should be assigned to the automatic accompaniment parts before exchanging data.

SONG SEL (SONG SELECT)
ON: Song number data can be exchanged.
OFF: Song number data cannot be exchanged.

SETUP LD (SETUP LOAD)
ON: When disk data is loaded, the MIDI settings stored on the disk are automatically recalled.
OFF: MIDI settings stored on the disk are not recalled.

TRANS. (TRANSPOSE)
ON: The NOTE number of the transposed note is transmitted/received.
OFF: The NOTE number of the played key is transmitted/received.

INTRO
ON: Enable the exchange of intro, fill-in and ending data.
OFF: This data cannot be transmitted/received.
- Data is exchanged on the channel for the **DRUMS** part.

APC CNT. (APC CONTROL)
ON: Enable the exchange of data for the on/off status of the **AUTO PLAY CHORD**'s **ONE FINGER, FINGERED** and **PIANIST** modes.
OFF: Data exchange is disabled.
- Data is exchanged on the channel for the **ACCOMP 1** part.

REAL. EX (REALTIME EXCLUSIVE)
ON: MIDI data is exchanged as SYSTEM EXCLUSIVE data during the performance.
OFF: This data cannot be transmitted/received as SYSTEM EXCLUSIVE data.

NONR. EX (NON REALTIME EXCLUSIVE)
ON: MIDI data is exchanged as SYSTEM EXCLUSIVE data before the performance.
OFF: This data cannot be transmitted/received as SYSTEM EXCLUSIVE data.

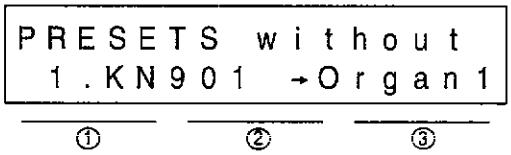
3. Use the ③ buttons to change the setting.

4. Repeat steps 2 and 3 for other functions.

MIDI PRESETS

Establish the optimum settings depending on how this instrument is connected to other equipment.

1. Select the MIDI PRESETS display. (Refer to page 83.)
- The display looks similar to the following.



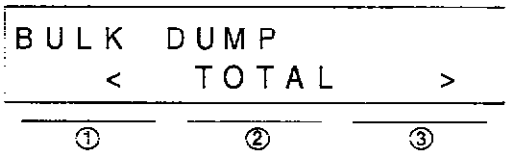
2. Use the ①, ② and ③ buttons to specify the connection setup.
- The left is the instrument used to transmit data, and the right is the instrument used to receive the data.
- Select <with APC> if the performance includes the **AUTO PLAY CHORD** performance. Select <without> if the **AUTO PLAY CHORD** is not used.
- Detailed information about the MIDI PRESETS can be found in the separate "REFERENCE GUIDE" provided.

3. Press the **EXECUTE (SYNCHRO & BREAK)** button.
- When the settings have been successfully stored, "COMPLETED!" appears on the display.

BULK DUMP

This instrument's internal data such as panel settings, performance data, etc. can be transmitted to and received from another KN901 or other MIDI equipment with BULK DUMP capability as SYSTEM EXCLUSIVE data.
- Sound is not generated from this instrument during this procedure.
- The operations on this display are executed, even if REAL. EX and NONR. EX is set to OFF on the OTHER SETTING display.

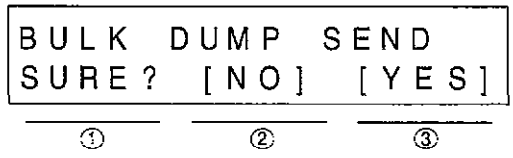
1. Select the BULK DUMP display. (Refer to page 83.)
- The display looks similar to the following.



2. Follow the procedure necessary to prepare the receiving instrument for data reception.

3. Use the ①, ② or ③ buttons to specify the type of data to transmit.
- Select from the following.
  TOTAL: All the following data
  COMPOSER: **COMPOSER** data
  SEQUENCER: **SEQUENCER** data
  SOUND MEM.: **SOUND** memory data
  PANEL MEM.: **PANEL MEMORY** data

4. Press the **EXECUTE (SYNCHRO & BREAK)** button.
- The following confirmation display appears.



5. Press either ③ [YES] button.
- Press the ② [NO] button if you wish to cancel the procedure.
- During transmission, the transmitting status is shown on the display.
- When transmission is completed, "COMPLETED!" is shown on the display.

■ Receiving

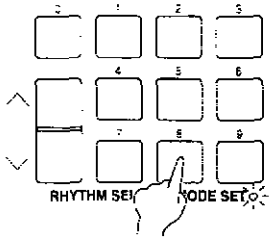
After accessing this display on this instrument, follow the transmission procedure on the transmission side.

GM Mode Set

Make the GENERAL MIDI (GM) settings. (A brief explanation of GENERAL MIDI is on page 82.)

1. Press the **MODE SET** button.

2. On the **RHYTHM SELECT/MODE SET** number pad, press **8**.



- The display looks similar to the following.

```
GENERAL MIDI
                <OFF>
```

① ② ③

3. Use the ③ buttons to specify whether or not this instrument should be compatible with GENERAL MIDI standard instruments (ON/OFF).
- This setting is automatically set to ON if data is loaded from a disk for which the GM mode was set to on, or from a disk for which the GM mode has not been specified.
- If ON is selected, the status of this instrument changes to the GENERAL MIDI status, and the sounds and operations which can be selected are limited. In addition, the arrangement of percussion sounds on the keyboard changes. (Refer to the separate "REFERENCE GUIDE" provided.)
- If GENERAL MIDI on/off data is received from connected MIDI equipment, the received data has priority.

4. Press the **EXECUTE (SYNCHRO & BREAK)** button.
- The following confirmation display appears.

```
SURE?    [NO] [YES]
```

① ② ③

5. Press either ③ [YES] button.
- Press either ② [NO] button if you wish to cancel the procedure.
- When the operation has been successfully completed, "COMPLETED!" is shown on the display.

- The **SEQUENCER** memory is cleared when the GENERAL MIDI mode is changed.
- If the power is turned off while the GENERAL MIDI mode is ON, the setting is automatically set to OFF and the **SEQUENCER** memory is cleared.

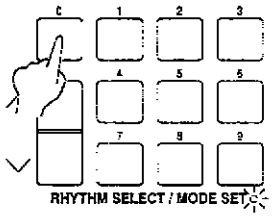
Initialize

This Keyboard has many settable functions and storable memories. However, you can return the settings and memory to the factory-preset status.

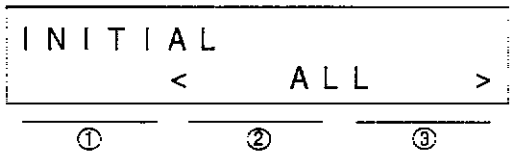
INITIAL

1. Press the **MODE SET** button.

2. On the **RHYTHM SELECT/MODE SET** number pad, press **0**.



- The display changes to the following.



3. Use the ② or ③ buttons to select the desired type of initialization.
- Select from the following:
  ALL: All the following data
  SEQUENCER: **SEQUENCER** settings
  COMPOSER: **COMPOSER** settings
  SOUND MEM.: **SOUND** memory settings
  PANEL MEM.: **PANEL MEMORY** settings
  MSP: **MANUAL SEQUENCE PADS** settings
  MIDI: MIDI settings

4. Press the **EXECUTE (SYNCHRO & BREAK)** button.

- The following confirmation display appears.

5. Press either ③ [YES] button.
- Press either ② [NO] button if you wish to cancel the procedure.
- When you press the ③ [YES] button, initialization begins. When initialization is completed, "COMPLETED!" is shown on the display and the instrument returns to the normal performance mode.

- You can also reset all the Keyboard settings with the following procedure: Turn off the **POWER** button once. Then, while pressing the **0**, **1** and **2** buttons in the **RHYTHM SELECT/MODE SET** section at the same time, turn the **POWER** button on again.

■ Backup memory

The panel settings are maintained in a backup memory for about one week after the power to this instrument is turned off. Other stored memories, such as the **SEQUENCER** and **COMPOSER**, are maintained for about 80 minutes. If you wish to keep the memory contents, before you turn off the instrument, use the SAVE procedure to store the desired data on a disk for recall at a later time.

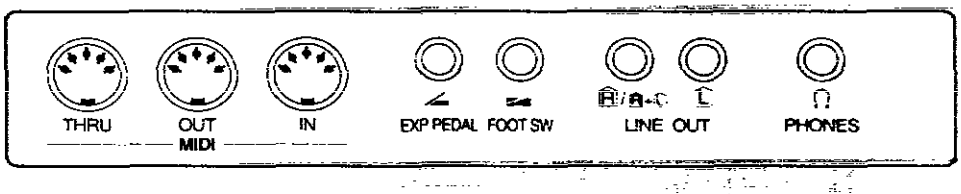
- The back-up memory does not function unless the power has been on for about 10 minutes.
- When you quit the operating mode, a reminder to save the data may appear on the display.

Options and connections

This page shows the optional accessories that are available for your Technics Keyboard. These can make your instrument more versatile and fun to play than it already is.
Also indicated are the many possible connections to the rear accessory panel.

Connections

(on the rear panel)



MIDI
These terminals are for connection to another MIDI instrument. (Refer to page 81.)

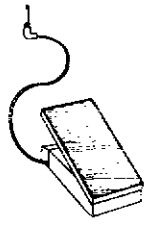
EXP PEDAL
The optional SZ-E2 Expression Pedal (sold separately) can be connected to this terminal to control the volume.

FOOT SW
An optional SZ-P1 Foot Switch (sold separately) can be connected to this terminal to control various functions. (Refer to page 44.)

LINE OUT (output level 1.5 Vrms, 600 Ω)
By connecting an external high-power amplifier, the sound can be reproduced at a high volume. To output monaural sound, connect the external equipment to the **R/R+L** terminal. (Do not connect the **L** terminal.)

PHONES
For silent practice, headphones may be used. When headphones are connected, the speaker system is automatically switched off, and sound is heard only through the headphones.

Separately sold options



SZ-E2
Expression Pedal

SZ-P1
Foot Switch

Error messages

No.	Contents
00	The data on the disk that you are using is for a different product.
01	An error has occurred while the disk was loading. Please try again!
02	There is no disk in the Disk Drive.
03	The file that you tried to load is empty.
05	An error has occurred while the disk was saving. Please try again!
06	The disk that you are using is write protected. Please remove the write protection and try again.
07	The disk that you are using is full. Please use another disk.
08	An error has occurred while the disk was formatting. The disk that you are using may be faulty. Please try formatting another disk.
09	The data on the disk is copy protected.
10	The data is already copy protected.
20	A problem has occurred with your **SEQUENCER** Data. This might be due to a damaged or faulty disk.
21	Memory full
23	It is impossible to change the time signature because it has already been set in the existing tracks.
24	A rhythm track already exists. It is impossible to assign two tracks to rhythm.
28	This song is too long to be saved as a MIDI file.
29	The MIDI file that you have tried to load exceeds the memory capacity of this instrument and cannot be played. The **SEQUENCER** memory has been cleared.

No.	Contents
30	It is not possible to change the time signature or measure length of a **COMPOSER** pattern after it has been recorded. If you want to proceed, you must first clear the entire **COMPOSER** pattern.
31	The time signature of the pattern from which you are copying is different from the **COMPOSER** memory that you are using. Either: Change the time signature of the **COMPOSER** memory or: Copy from a pattern that has the same time signature
32	Memory full
40	The Identification (ID) code of the system exclusive data received by this instrument is for a different product.
41	An error has occurred during system exclusive data reception. The data from the transmitting device may be incomplete. Please try again.
42	An error has occurred during system exclusive transmission. The data has not been received correctly. Please try again.
43	The file that you are trying to load was saved on a previous KN Keyboard. It is only possible to load using the "ALL" option.
44	It is impossible to edit a KEYBOARD PERCUSSION. Please select a different sound from any group except Keyboard Percussion.
45	Incompatible disk format.
47	Please select a preset pattern (**00–99**).
54	Please select a user bank (10-12).

Symptoms which appear to be signs of trouble

The following changes in performance may occur in the Technics Keyboard but do not indicate trouble.

	Phenomenon	Remedy
Sounds and effects	The buttons, keys, etc. malfunction.	• Turn off the **POWER** button once, then turn it on again. If this procedure is not successful, turn off the **POWER** button once. Then, while pressing the **0**, **1** and **2** buttons in the **RHYTHM SELECT/MODE SET** section at the same time, turn the **POWER** button on again. (Note that, in this case, all programmable settings, functions and memories return to their factory-preset status.)
	No sound is produced when the keys are pressed.	• The **MAIN VOLUME** is at the minimum setting. Adjust the volume with the **MAIN VOLUME** control. • The volumes for the selected parts are set to the minimum levels. Use the balance buttons to set the volumes of the relevant parts to appropriate levels. (Refer to page 20.) • The LOCAL CONTROL for a part performed on the keyboard is set to OFF. Set the LOCAL CONTROL to ON. (Refer to page 84.)
	The type of effect does not alternate when the **CHORUS/FLANGER** button is pressed.	• Follow the procedure to select the type of effect. (Refer to page 26.)
	The volume is very low when the keyboard is played.	• The volume setting in the **SEQUENCER** contents is very low. Follow the INITIAL procedure to reset the settings. (Refer to page 89.)
	Some sounds cannot be selected.	• When the GENERAL MIDI status is set to on, The sounds which can be selected and operation which can be executed are limited. Turn the GENERAL MIDI status off to return the instrument to its normal operation. (Refer to page 88.)
	The sound you hear is different from the sound you selected.	• This sometimes occurs when you play back **SEQUENCER** or **COMPOSER** data which was created on a different model, or when MIDI data is received from a connected instrument. Select the desired sounds again.
Rhythm	The rhythm does not start.	• The **DRUMS** volume is set to the minimum level. Use the balance buttons to set the **DRUMS** volume to an appropriate level. • In the **RHYTHM SELECT** section, a rhythm in **MEMORY A** or **MEMORY B** with no stored pattern was selected. Select a different rhythm. • **A SEQUENCER** track button is on. When you are not playing back the **SEQUENCER** performance, turn off the track buttons. • CLOCK is set to MIDI [MID]. Set CLOCK to INTERNAL [INT]. (Refer to page 85.) • The rhythm does not work when the GENERAL MIDI mode is set to ON. Turn the GENERAL MIDI status off to return the instrument to its normal operation. (Refer to page 88.)

	Phenomenon	Remedy
SEQUENCER	Storage is not possible.	• The remaining memory capacity of the **SEQUENCER** is 0. Follow the SEQUENCER CLEAR procedure to erase the memory. (Refer to page 54.)
	Multi-track storage is not possible.	• The playback track has been selected, but the **START/STOP** button has not been pressed. A flashing track indicator shows the track which is ready for recording, and a lit track indicator shows a track which is ready for playback. To record one track while listening to another (playback) track, press the **START/STOP** button to begin playback. (Refer to page 49.)
	The playback measure indication is different from when the performance was recorded.	• The number of measures corresponds to the time signature of the rhythm selected at the start of recording. To change the rhythm in the middle of the song, record the rhythm change in the RHYTHM part. (Refer to page 52.)
AUTO PLAY CHORD	No sound is produced for the automatic accompaniment.	• In the **RHYTHM SELECT** section, a rhythm in **MEMORY A** or **MEMORY B** with no stored pattern was selected. Select a different rhythm.
	No sound is produced for the automatic accompaniment, or only the sounds of some parts are produced.	• An **ACCOMP** part does not sound if its corresponding volume is set to the minimum level. Use the respective balance buttons to set the **ACCOMP 1**, **2** and **3** volumes to appropriate levels. • The part is muted. (Refer to page 39.)
COMPOSER	Storage is not possible.	• The remaining memory capacity of the **COMPOSER** is 0.
	Setting the time signature and number of measures is not possible.	• The time signature and number of measures cannot be changed for a pattern which is currently recorded in the **COMPOSER**. If you wish to change the time signature and/or measure data, first follow the procedure to clear the memory. (Refer to page 59.)
	The playback timing of the rhythm pattern is different from the timing with which it was recorded.	• The QUANTIZE function was on when the pattern was recorded and the timing was automatically corrected. Set the quantize level to a smaller note unit or to OFF when recording. (Refer to page 61.)
Disk Drive	The Disk Drive produces a noise during recording or playback.	• This occurs when the Disk Drive is reading a disk. It does not indicate a problem.
	When the procedure to load from a disk is performed, the contents of the keyboard memory are erased.	• When performing the load operation from a disk, the keyboard memory changes to that of the data loaded from the disk. If you wish to preserve a song which is stored in the keyboard memory, save it on a disk before performing the load procedure. (Refer to page 70.)
Other	Noise from a radio or TV can be heard.	• This sometimes occurs when electrical equipment such as a radio or TV is used near the instrument. Try moving such electrical equipment further away from the instrument. • The sound may be coming from a nearby broadcast station or amateur radio station. If the sound is bothersome, consult your dealer or service center.
	The cabinet becomes warm during use.	• This instrument has a built-in power source that heats the cabinet to some degree. This is not an indication of trouble.

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Specifications

	SX-KN901
KEYBOARD	61 KEYS (WITH INITIAL TOUCH)
SOUND GENERATOR	PCM
MAXIMUM NUMBER OF NOTES PRODUCED SIMULTANEOUSLY	32 NOTES
SOUNDS	200 SOUNDS
EFFECTS	DIGITAL EFFECT, SUSTAIN, CHORUS/FLANGER, REVERB/PHASER, PITCH BEND
PART SELECT	RIGHT 1, RIGHT 2, LEFT
TRANSPOSE	G–C–F♯
RHYTHM	100 RHYTHMS + 100 VARIATIONS
CONTROLS	MAIN VOLUME, BALANCE, CONDUCTOR, START/STOP, INTRO & ENDING, FILL IN 1, FILL IN 2, VARIATION, COUNT INTRO, SYNCHRO & BREAK, TEMPO, SPLIT POINT, MUTE
MANUAL SEQUENCE PADS	14 BANKS x 3 (MEMORY: 3 BANKS x 3), RECORD/STOP
AUTO PLAY CHORD	ONE FINGER, FINGERED, PIANIST, MEMORY, ON BASS, MUSIC STYLE ARRANGER, SOUND ARRANGER
ONE TOUCH PLAY	○
TECHNI-CHORD	○
PANEL MEMORY	2 BANKS × 5, SET
SEQUENCER	16 TRACKS STORAGE CAPACITY: APPROX. 19000 NOTES INPUT MODES: EASY RECORD, REALTIME RECORD, STEP RECORD (CHORD,RHYTHM)
COMPOSER	5 PARTS: BASS, ACCOMP 1, ACCOMP 2, ACCOMP 3, DRUMS STORAGE CAPACITY: APPROX. 8600 NOTES INPUT MODES: REALTIME RECORD FUNCTIONS: COMPOSER LOAD, CLEAR, PERCUSSION ERASE, MODE SELECT, BEND RANGE MEMORY: 2 BANKS × 10 (MEMORY 1–6, INTRO, FILL IN 1, FILL IN 2, ENDING)
DISK DRIVE	3.5 INCH DISK DRIVE FOR 2HD (1.44 MB), 2DD (720 KB) DISK LOAD (TECHNICS, SMF), DISK SAVE (TECHNICS, SMF), DISK FORMAT, LOAD SINGLE COMPOSER PATTERN, LOAD SINGLE SOUND MEMORY
SOUND SETTING MENU	PART SETTING, TOUCH & TUNE, TECHNI-CHORD TYPE, LEFT HOLD, REVERB & PHASER, CHORUS & FLANGER
SOUND EDIT	TONE SHUFFLE, OCTAVE, VIBRATO, AUTO BEND, ENVELOPE, FILTER, DIGITAL EFFECT MEMORY: 36
MODE SET	INITIAL, KEYBOARD SETUP (FOOT SWITCH SETTING, LCD CONTRAST), KEYBOARD SCALING, SEQUENCER CLEAR, SEQUENCER QUANTIZE, TRACK ASSIGN, MEDLEY PLAY, MIDI SETTINGS (PART SETTING, CONTROL MESSAGE, OTHER SETTING, PRESETS, BULK DUMP), GM MODE SET
DISPLAY	LCD (16 CHARACTERS × 2 LINES) EXIT, DISPLAY HOLD
DEMO	○
TERMINALS	PHONES, LINE OUT (R/R+L, L), FOOT SW, EXP PEDAL, MIDI (IN, OUT, THRU)
OUTPUT	8 W × 2
SPEAKERS	12 cm × 2
POWER REQUIREMENT	65 W, 50 W (NORTH AMERICA AND MEXICO) AC120/220/240V 50/60 Hz AC120V 60Hz (NORTH AMERICA AND MEXICO) AC230V 50/60Hz (NEW ZEALAND) AC230–240 V 50/60 Hz (EUROPE)
DIMENSIONS (W×H×D)	99.8 cm × 11.8 cm × 35.1 cm (39-9/32" × 4-21/32" × 13-13/16")*
NET WEIGHT	8.0 kg (17.6 lbs.)*
ACCESSORIES	MUSIC STAND, AC CORD, RHYTHM PATTERN DISK

* Without MUSIC STAND

Design and specifications are subject to change without notice.

[redacted]

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Technics

KN901 REFERENCE GUIDE

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    - SMF
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    - TECHNICS
    - SMF
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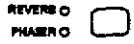
EASY SETTING (Press and hold)

→ TECHNI-CHORD TYPE



→ REVERB & PHASER SETTING

→ CHORUS & FLANGER SETTING

→ SPLIT POINT SETTING

→ MUSIC STYLE ARRANGER MODE

→ PANEL MEMORY MODE

→ DISK LOAD

...INT VARIATIONS

GROUP	NO	SOUND	DISPLAY	MIDI PROGRAM CHANGE DATA				
				NORM		TECH		GM
PIANO	00	Piano	Piano	0	(0)	0	(0)	1
		Honky Tonk	HkTnk	0	(1)	1	(16)	4
	01	Bright Piano	BrPno	1	(0)	1	(0)	2
		* Midi Grand	MdGrd	1	(1)	0	(32)	—
	02	Piano 1 Oct.	P1oct	2	(0)	0	(16)	—
		* Piano 2 Oct.	P2oct	2	(1)	2	(16)	—
	03	Elect.Grand	EGrnd	3	(0)	3	(0)	3
		* Rock Piano	RkPno	3	(1)	3	(32)	—
	04	E.Piano 1	E.P.1	4	(0)	5	(0)	5
		* E.Piano 2	E.P.2	4	(1)	4	(32)	—
	05	Modern E.P.1	MdEP1	5	(0)	6	(0)	6
		* Modern E.P.2	MdEP2	5	(1)	4	(0)	—
	06	Harpsichord	Hrpsi	6	(0)	16	(0)	7
		* Cembalo	Cembl	6	(1)	18	(0)	—
	07	Clavi	Clavi	7	(0)	17	(0)	8
		* Synth Clavi	SClav	7	(1)	115	(0)	—
ORCHESTRAL	08	Harp	Harp	8	(0)	32	(0)	47
		* Celesta	Celst	8	(1)	12	(0)	9
	09	Timpani	Timps	9	(0)	126	(0)	48
		* Orchestra Hit	Hit	9	(1)	127	(16)	56
MALLET	10	Glockenspiel	Glock	10	(0)	9	(0)	10
		Glocken	SGlok	10	(1)	9	(32)	99
	11	Vibraphone	Vibes	11	(0)	8	(0)	12
		* Tubular Bells	TblBl	11	(1)	14	(0)	15
	12	Marimba	Mrmba	12	(0)	10	(0)	13
		* Bottle Marimba	BtlMr	12	(1)	13	(0)	—
	13	Xylophone	Xylo	13	(0)	11	(0)	14
		* Caribb Mallet	Carib	13	(1)	11	(16)	—
ETHNIC/PERC	14	Banjo	Banjo	14	(0)	33	(0)	106
		Mando	Mando	14	(1)	35	(0)	—
	15	Music Box	MusBx	15	(0)	7	(0)	11
		Tinkle Bell	TklBl	15	(1)	14	(32)	113
	16	Steel Drum	StlDr	16	(0)	15	(0)	115
		Kalimba	Klmba	16	(1)	39	(0)	109
	17	Sitar	Sitar	17	(0)	38	(0)	105
		* Dulcimer	Dulcm	17	(1)	38	(16)	16
	18	Koto	Koto	18	(0)	37	(0)	108
		* Shamisen	Shami	18	(1)	36	(0)	107
	19	Agogo	Agogo	19	(0)	122	(0)	114
		* Wood Block	WdBlk	19	(1)	122	(16)	116
	20	Taiko Drum	TkDrm	20	(0)	123	(48)	117
		* Synth Drum	SyDrm	20	(1)	124	(0)	119
	21	Melodic Tom	MldTm	21	(0)	122	(32)	118
		* Reverse Cymbal	RvCym	21	(1)	122	(48)	120

SOUND VARIATIONS

GROUP	NO.		SOUND	DISPLAY	MIDI PROGRAM CHANGE DATA		
					NORM	TECH	GM
GUITAR	22		Classical Gtr	ClGtr	22 (0)	20 (0)	–
		*	Spanish Gtr	SpGtr	22 (1)	20 (16)	25
	23		Folk Guitar	FoGtr	23 (0)	22 (0)	26
		*	12 String Gtr	12Str	23 (1)	23 (0)	–
	24		Jazz Guitar 1	JzGt1	24 (0)	25 (0)	27
		*	Jazz Guitar 2	JzGt2	24 (1)	24 (0)	–
	25		Bright Solid	BrSld	25 (0)	26 (0)	28
		*	Mellow Solid	MlSld	25 (1)	28 (0)	–
	26		Mute Guitar	MtGtr	26 (0)	29 (0)	29
		*	Electro Acc	ElAcc	26 (1)	25 (32)	–
	27		Distortion Gtr	DsGtr	27 (0)	30 (0)	31
		*	Funk Solid	FkSld	27 (1)	26 (16)	–
	28		Overdrive Gtr	Ovdrv	28 (0)	27 (32)	30
		*	Gtr Harmonics	GtHrm	28 (1)	27 (16)	32
	29		Country Gtr	CtyGt	29 (0)	31 (16)	–
		*	Hawaiian Gtr	Hawai	29 (1)	31 (0)	–
VOCAL	30		Vocal Ah	VocAh	30 (0)	104 (48)	53
		*	Vocal Doo	VocDo	30 (1)	109 (0)	54
	31		Vocal Ooh	VolOo	31 (0)	104 (32)	–
		*	Humming	Hum	31 (1)	105 (0)	–
	32		Synth Vocal	SyVol	32 (0)	107 (0)	55
		*	Mellow Ens.	MlEns	32 (1)	107 (16)	90
STRINGS	33		Violin	Vln	33 (0)	96 (0)	41
		*	Jazz Violin	JzVln	33 (1)	96 (16)	–
	34		Country Fiddle	CtFdl	34 (0)	96 (32)	111
		*	Viola	Viola	34 (1)	97 (32)	42
	35		Cello	Cello	35 (0)	97 (0)	43
		*	Bowed Bass	BwdBs	35 (1)	98 (0)	44
	36		Strings	Strng	36 (0)	100 (0)	49
		*	Octave Strings	OctSt	36 (1)	102 (0)	–
	37		Soft Strings	SftSt	37 (0)	101 (32)	–
		*	Slow Strings	SlwSt	37 (1)	101 (0)	50
	38		Pizzicato	Pizz	38 (0)	99 (0)	46
		*	Tremolo String	TrmSt	38 (1)	100 (32)	45
	39		Synth Strings1	SySt1	39 (0)	103 (0)	51
		*	Synth Strings2	SySt2	39 (1)	103 (16)	52
ORGAN	40		Pipe Organ 1	POrg1	40 (0)	84 (0)	20
		*	Pipe Organ 2	POrg2	40 (1)	85 (0)	–
	41		Theatre Organ	ThOrg	41 (0)	87 (32)	–
		*	Harmonium	Hrmon	41 (1)	86 (32)	21
	42		Jazz Organ	JzOrg	42 (0)	88 (0)	18
		*	Jazz Drawbars	JzDrw	42 (1)	93 (0)	–
	43		Full Drawbars	FlDrw	43 (0)	89 (0)	17
		*	16' & 1'	16&1	43 (1)	91 (0)	–
	44		Rock Organ	RkOrg	44 (0)	92 (32)	19
		*	Pop Organ	PopOr	44 (1)	90 (0)	–

UND VARIATIONS

GROUP	NO.		SOUND	DISPLAY	MIDI PROGRAM CHANGE DATA		
					NORM	TECH	GM
BRASS	45		Brass	Brass	45 (0)	56 (0)	62
		*	Octave Brass	OctBr	45 (1)	56 (16)	–
	46		Trumpet	Tpt	46 (0)	48 (0)	57
		*	Orch.Trumpet	OrTpt	46 (1)	48 (32)	–
	47		Mute Trumpet	MtTpt	47 (0)	50 (0)	60
		*	Flugel Horn	Flugl	47 (1)	51 (0)	–
	48		Trombone	Trmbn	48 (0)	52 (0)	58
		*	Orch.Trombone	OrTbn	48 (1)	52 (16)	–
	49		Close Fr.Horn	ClFHr	49 (0)	54 (0)	–
		*	Open Fr.Horn	OpFHr	49 (1)	54 (16)	61
	50		Synth Brass	SyBrs	50 (0)	60 (0)	64
		*	Mellow Brass	MlBrs	50 (1)	62 (16)	–
	51		Syn.Brass Ens	SBrEs	51 (0)	61 (16)	63
		*	Brass & Synth	Br&Sy	51 (1)	56 (48)	–
FLUTE	52		Piccolo	Piccl	52 (0)	64 (0)	73
		*	Alto Flute	AltFl	52 (1)	64 (16)	–
	53		Jazz Flute	JzFlt	53 (0)	65 (0)	74
		*	Classic Flute	ClFlt	53 (1)	65 (16)	–
	54		Recorder	Recrd	54 (0)	74 (0)	75
		–	Ocarina	Ocari	54 (1)	74 (16)	80
	55		Pan Flute	PanFl	55 (0)	72 (0)	76
		*	Blown Bottle	Blown	55 (1)	72 (32)	77
	56		Shakuhachi	Shaku	56 (0)	75 (0)	78
		*	Whistle	Whisl	56 (1)	111 (0)	79
REED	57		Soprano Sax	SopSx	57 (0)	76 (0)	65
		*	Distortion Sax	DstSx	57 (1)	78 (32)	–
	58		Alto Sax	AltSx	58 (0)	77 (0)	66
			Mellow Alto	MlwSx	58 (1)	77 (16)	–
	59		Tenor Sax	TnrSx	59 (0)	78 (48)	67
		*	Breathy Tenor	BrTnr	59 (1)	78 (16)	–
	60		Baritone Sax	Bari	60 (0)	79 (16)	68
		*	Rock Tenor	RkTnr	60 (1)	79 (0)	–
	61		Jazz Clarinet	JzCl	61 (0)	68 (0)	72
		*	Clas.Clarinet	ClsCl	61 (1)	69 (0)	–
	62		Oboe	Oboe	62 (0)	66 (0)	69
		*	English Horn	EngHr	62 (1)	67 (0)	70
	63		Bassoon	Bassn	63 (0)	70 (0)	71
		*	Bass Clarinet	BsCl	63 (1)	69 (16)	–
	64		Bagpipe	Bgpip	64 (0)	73 (0)	110
		*	Shanai	Shnai	64 (1)	73 (16)	112
	65		Harmonica	Harmo	65 (0)	83 (0)	23
		*	Blues Harmnica	BlsHm	65 (1)	83 (16)	–
ACCORDION	66		Bri.Accordion	BrAcc	66 (0)	80 (0)	22
		*	Mel.Accordion	MlAcc	66 (1)	81 (0)	–
	67		Musette	Muset	67 (0)	82 (0)	–
		*	Bandoneon	Bdneo	67 (1)	80 (16)	24

SOUND VARIATIONS

GROUP	NO.		SOUND	DISPLAY	MIDI PROGRAM CHANGE DATA					
					NORM		TECH		GM	
SYNTH LEAD	68		Square Lead	SqrLd	68	(0)	117	(0)	81	
		*	Charang	Chrng	68	(1)	27	(48)	86	
	69		Saw Lead	SawLd	69	(0)	118	(16)	82	
		*	5th Wave	5thWv	69	(1)	119	(0)	87	
	70		Synth Calliope	SyClp	70	(0)	72	(48)	83	
		*	Air Vox	AirVx	70	(1)	106	(16)	88	
	71		Chiffer Lead	ChfLd	71	(0)	117	(32)	84	
		*	Synthynet	Synet	71	(1)	115	(16)	–	
	72		Lead Voice	LdVoi	72	(0)	121	(32)	–	
		*	Chopper Flute	ChpFl	72	(1)	112	(32)	–	
SYNTH PAD	73		Fantasia	Fntsa	73	(0)	110	(32)	89	
		*	Glitter	Glttr	73	(1)	104	(16)	–	
	74		Polysynth	Plysy	74	(0)	102	(32)	91	
		*	Halo Pad	HaloPd	74	(1)	107	(48)	95	
	75		Spacy Pad	SpcPd	75	(0)	107	(32)	92	
		*	Sweep Pad	SwpPd	75	(1)	82	(32)	95	
	76		Crystal Ens.	Crstl	76	(0)	120	(0)	93	
		*	Dream	Dream	76	(1)	108	(32)	–	
	77		Metal Pad	MtlPd	77	(0)	106	(32)	94	
		*	Syn.Orchestra	SyOch	77	(1)	83	(16)	–	
	78		Mist	Mist	78	(0)	108	(48)	101	
		*	Star Theme	S.Thm	78	(1)	120	(16)	104	
SYNTH EFFECT	79		Ice Rain	IceRn	79	(0)	121	(48)	97	
		*	Atmosphere	Atmos	79	(1)	21	(48)	100	
	80		Soundtreck	Sndtr	80	(0)	119	(16)	98	
		*	Click Vox	ClkVx	80	(1)	108	(48)	103	
	81		Goblins	Gblin	81	(0)	108	(0)	102	
		*	Click Echo	CEcho	81	(1)	108	(0)	–	
BASS	82		Acoustic Bass	AcBas	82	(0)	43	(0)	33	
		*	Mellow A.Bass	MlAcB	82	(1)	43	(16)	–	
	83		Electric Bass	ElBas	83	(0)	40	(0)	–	
		*	Bright E.Bass	BrEBs	83	(1)	40	(16)	34	
	84		Fretless Bass	Frtls	84	(0)	40	(32)	35	
		*	Funky E.Bass	Fnky	84	(1)	40	(48)	–	
	85		Picked E.Bass	PkEBs	85	(0)	42	(0)	36	
		*	Rock Bass	RkBas	85	(1)	47	(16)	–	
	86		Mute Bass	MtBas	86	(0)	47	(0)	–	
		*	Analog Bass	AnlgB	86	(1)	46	(16)	–	
	87		Slap Bass 1	SlpB1	87	(0)	41	(0)	37	
		*	Slap Bass 2	SlpB2	87	(1)	41	(16)	38	
	88		Wow Bass	WowBs	88	(0)	46	(0)	39	
		*	Bass & Lead	Bs&Ld	88	(1)	46	(32)	88	
	89		Synth Chopper	SyChp	89	(0)	45	(0)	40	
		*	Dance Bass	DncBs	86	(1)	47	(48)	–	
	90		Tube	Tube	90	(0)	85	(0)	59	
		*	Organ Bass	OrgBs	90	(1)	94	(16)	–	

KIND VARIATIONS

GROUP	NO.		SOUND	DISPLAY	MIDI PROGRAM CHANGE DATA		
					NORM	TECH	GM
SOUND EFFECT			Telephone	Phone	91 (0)	123 (0)	125
		*	Bird Tweet	Bird	91 (1)	125 (32)	124
	92		Helicopter	Helic	92 (0)	123 (16)	126
		*	Seashore	Seash	92 (1)	124 (48)	123
	93		Applause	Appls	93 (0)	125 (48)	127
		*	Gun Shot	Gun	93 (1)	123 (32)	128
	94		Fret Noise	FrtNs	94 (0)	124 (16)	121
		*	Breath Noise	BrtNs	94 (1)	124 (32)	122
KEYBOARD PERC	95		Jazz Kit	JzKit	95 (0)	113 (128)	–
		*	Brush Kit	BrKit	95 (1)	117 (128)	–
	96		Rock Kit 1	RKit 1	96 (0)	112 (128)	–
		*	L. Rock Kit	LtRck	96 (1)	126 (128)	–
	97		Rock Kit 2	RKit 2	97 (0)	115 (128)	–
		*	Hard Rock Kit	HdRck	97 (1)	119 (128)	–
	98		Dance Kit	DnKit	98 (0)	122 (128)	–
		*	Funk Kit	FnKit	98 (1)	120 (128)	–
	99		Soul Kit	SlKit	99 (0)	121 (128)	–
		*	House Kit	HsKit	99 (1)	123 (128)	–

SOUND VARIATIONS

GROUP	NO.	SOUND	DISPLAY	MIDI PROGRAM CHANGE DATA		
				NORM	TECH	GM
MEMORY	01	Memory1	M01	100 (0)	0 (128)	–
	02	Memory2	M02	100 (1)	1 (128)	–
	03	Memory3	M03	101 (0)	2 (128)	–
	04	Memory4	M04	101 (1)	3 (128)	–
	05	Memory5	M05	102 (0)	4 (128)	–
	06	Memory6	M06	102 (1)	5 (128)	–
	07	Memory7	M07	103 (0)	6 (128)	–
	08	Memory8	M08	103 (1)	7 (128)	–
	09	Memory9	M09	104 (0)	8 (128)	–
	10	Memory10	M10	104 (1)	9 (128)	–
	11	Memory11	M11	105 (0)	10 (128)	–
	12	Memory12	M12	105 (1)	11 (128)	–
	13	Memory13	M13	106 (0)	12 (128)	–
	14	Memory14	M14	106 (1)	13 (128)	–
	15	Memory15	M15	107 (0)	14 (128)	–
	16	Memory16	M16	107 (1)	15 (128)	–
	17	Memory17	M17	108 (0)	16 (128)	–
	18	Memory18	M18	108 (1)	17 (128)	–
	19	Memory19	M19	109 (0)	18 (128)	–
	20	Memory20	M20	109 (1)	19 (128)	–
	21	Memory21	M21	110 (0)	20 (128)	–
	22	Memory22	M22	110 (1)	21 (128)	–
	23	Memory23	M23	111 (0)	22 (128)	–
	24	Memory24	M24	111 (1)	23 (128)	–
	25	Memory25	M25	112 (0)	24 (128)	–
	26	Memory26	M26	112 (1)	25 (128)	–
	27	Memory27	M27	113 (0)	26 (128)	–
	28	Memory28	M28	113 (1)	27 (128)	–
	29	Memory29	M29	114 (0)	28 (128)	–
	30	Memory30	M30	114 (1)	29 (128)	–
	31	Memory31	M31	115 (0)	30 (128)	–
	32	Memory32	M32	115 (1)	31 (128)	–
	33	Memory33	M33	116 (0)	32 (128)	–
	34	Memory34	M34	116 (1)	33 (128)	–
	35	Memory35	M35	117 (0)	34 (128)	–
	36	Memory36	M36	117 (1)	35 (128)	–

•The numbers in parentheses ( ) are bank data.
Program change number = Program change data+1 ／ Bank number = Bank data+1

RHYTHM

GROUP	NO.	RHYTHM	DISPLAY	MIDI PROGRAM CHANGE DATA	
				NORM	TECH
BEAT	00	8Bt Standard	8 Stnd	0	90 (96)
	01	8Bt Rock	8 Rock	1	90 (112)
	02	8Bt Ballad 1	8 Bd 1	2	91 (48)
	03	8Bt Ballad 2	8 Bd 2	3	91 (32)
	04	8Bt Soul 1	8 Sl 1	4	87 (32)
	05	8Bt Soul 2	8 Sl 2	5	87 (16)
	06	8Bt Pop	8 Pop	6	84 (64)
	07	Hard Rock	HRock	7	92 (32)
	08	U.S. Rock	USRck	8	94 (32)
	09	Heavy Metal	HvMt l	9	92 (48)
	10	Country Rock	CtyRk	10	85 (32)
	11	60's Pop	60Pop	11	86 (32)
	12	Rock'n' Roll 1	R'R 1	12	80 (80)
	13	Rock'n' Roll 2	R'R 2	13	80 (64)
16BEAT	14	16Bt Stand. 1	16 S 1	14	96 (80)
	15	16Bt Stand. 2	16 S 2	15	96 (64)
	16	16Bt Rock 1	16 R 1	16	100 (32)
	17	16Bt Rock 2	16 R 2	17	100 (0)
	18	16Bt Ballad	16 Bld	18	99 (16)
	19	16BtPopBallad	16 PBd	19	107 (80)
	20	16Bt Pop	16 Pop	20	101 (32)
	21	Piano Pop	PnPop	21	101 (0)
MODERN ROCK	22	Jazz Rock 1	JRk 1	22	113 (96)
	23	Jazz Rock 2	JRk 2	23	113 (80)
	24	Jazz Funk 1	JFn 1	24	112 (48)
	25	Jazz Funk 2	JFn 2	25	113 (64)
	26	Soul Rock 1	SlR 1	26	127 (80)
	27	Soul Rock 2	SlR 2	27	102 (64)
	28	Soul Ballad	SlBld	28	103 (32)
	29	Carib. Rock	CrbRk	29	118 (48)
	30	Samba Rock 1	SaR 1	30	117 (16)
	31	Samba Rock 2	SaR 2	31	116 (16)
FUNK&DANCE	32	Funk 1	Fnk 1	32	110 (48)
	33	Funk 2	Fnk 2	33	111 (32)
	34	Swing Funk	SFunk	34	65 (32)
	35	Disco 1	Dsc 1	35	124 (80)
	36	Disco 2	Dsc 2	36	123 (64)
	37	Dance 1	Dnc 1	37	124 (96)
	38	Dance 2	Dnc 2	38	124 (64)
	39	Rap	Rap	39	127 (96)
	40	House	House	40	125 (32)

RHYTHM

GROUP	NO.	RHYTHM	DISPLAY	MIDI PROGRAM CHANGE DATA	
				NORM	TECH
ROCK (OTHERS)	41	Shuffle R&R	SflRR	41	76 (112)
	42	ShuffleBoogie	SflBg	42	76 (0)
	43	ShuffleH.Rock	SflHR	43	79 (16)
	44	ShuffleBallad	SflBl	44	76 (32)
	45	Rock Ballad	RkBld	45	74 (80)
	46	Sl. SoulBallad	SSBld	46	75 (32)
	47	Swing Rock	SwgRk	47	72 (64)
LATIN	48	Rhumba	Rhmba	48	58 (64)
	49	Beguine	Begin	49	59 (32)
	50	Mambo	Mambo	50	56 (32)
	51	Modern Mambo	MdnMb	51	56 (48)
	52	Cha Cha	ChCha	52	57 (48)
	53	Salsa	Salsa	53	66 (64)
	54	Swingy Reggae	SwgRg	54	71 (32)
	55	Modern Reggae	MdnRg	55	71 (48)
	56	Bossanova 1	BsN1	56	48 (112)
	57	Bossanova 2	BsN2	57	48 (96)
	58	Samba	Samba	58	61 (80)
	59	Tango Argent.	TngAr	59	53 (48)
	60	Tango Contin.	TngCt	60	53 (64)
	61	Folklore	Flklr	61	61 (0)
	62	Arabian	Arabi	62	60 (0)
SWING	63	Stand. Swing	StSwg	63	25 (32)
	64	Big Band 1	BBd1	64	36 (64)
	65	Big Band 2	BBd2	65	38 (80)
	66	B. Band Ballad	BBBld	66	39 (32)
	67	Orch. Swing	OrSwg	67	37 (32)
JAZZ	68	Jazz Combo	JComb	68	34 (80)
	69	Euro Combo	EComb	69	34 (64)
	70	Jazz Quartet	JQrtt	70	32 (64)
	71	Jazz Ballad	JBlad	71	44 (16)
	72	Mod. Jazz Fast	MdnJF	72	40 (80)
	73	Dixie	Dixie	73	24 (96)
	74	Organ Blues	OrgBl	74	38 (96)
	75	Jazz Waltz	JWalz	75	46 (48)
WALTZ	76	Stand. Waltz	SWalz	76	8 (96)
	77	Vienna Waltz	VWalz	77	9 (32)
	78	Chanson Waltz	CWalz	78	11 (32)
	79	Swingy Waltz	SwgWz	79	12 (16)
MARCH	80	U.S. March 2/4	USM2	80	0 (80)
	81	Germ.March 2/4	GmMch	81	1 (48)
	82	U.S. March 6/8	USM6	82	2 (16)
	83	Pop March	PpMch	83	4 (64)

RHYTHM

GROUP	NO.	RHYTHM	DISPLAY	MIDI PROGRAM CHANGE DATA	
				NORM	TECH
TRAD & SHOW	84	Polka 2/4	Plk2	84	4 (32)
	85	Foxtrot	Foxtr	85	29 (96)
	86	Chanson Fox.	CnsFx	86	29 (64)
	87	Quickstep	QStep	87	28 (16)
	88	Broadway Show	BShow	88	15 (64)
	89	Hollywood	Hlywd	89	30 (16)
	90	Soft Shoe	SShoe	90	24 (80)
	91	Cabaret	Cabrt	91	15 (48)
	92	Paris. Ballad	PariB	92	74 (96)
U.S. TRAD	93	Country 2Step	Cntry	93	17 (112)
	94	Country Swing	CtSwg	94	17 (80)
	95	Bluegrass	Blgrs	95	20 (48)
	96	R&B Soul	R&BSl	96	123 (80)
	97	R&B Ballad	R&BBl	97	75 (64)
	98	GospelShuffle	GsplS	98	77 (64)
	99	Hawaiian	Hawai	99	22 (16)
MEMORY A	01	Memory 1	M01	100	0 (128)
	02	Memory 2	M02	101	1 (128)
	03	Memory 3	M03	102	2 (128)
	04	Memory 4	M04	103	3 (128)
	05	Memory 5	M05	104	4 (128)
	06	Memory 6	M06	105	5 (128)
MEMORY B	07	Memory 7	M07	106	6 (128)
	08	Memory 8	M08	107	7 (128)
	09	Memory 9	M09	108	8 (128)
	10	Memory 10	M10	109	9 (128)
	11	Memory 11	M11	110	10 (128)
	12	Memory 12	M12	111	11 (128)

The numbers in parentheses ( ) are bank data.
Program change number = Program change data+1 / Bank number = Bank data+1

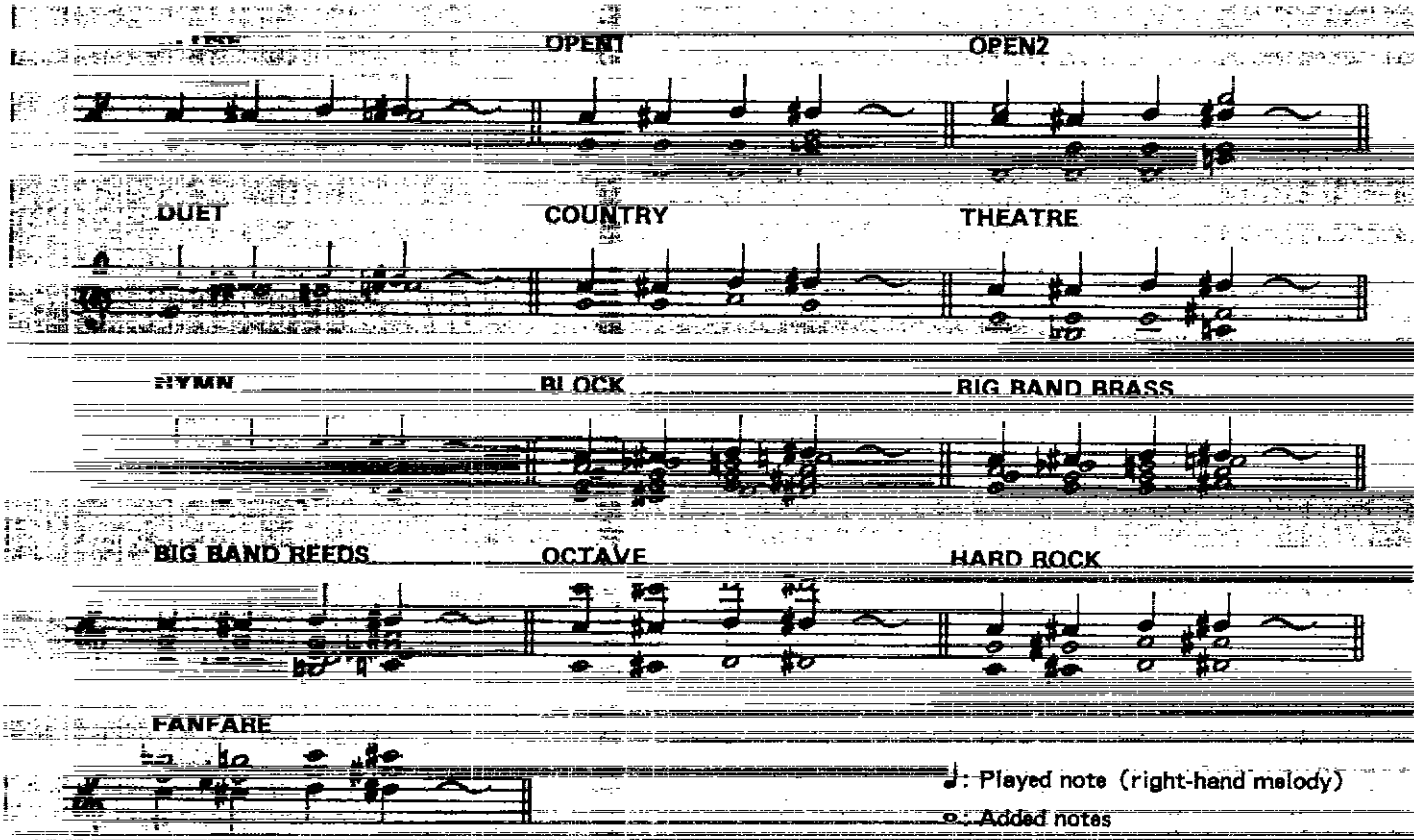
KEYBOARD PERCUSSION

		Drum kit	MIDI NOTE NUMBER		General MIDI	MIDI NOTE NUMBER
			NORM	TECH		
		–	–	–	Bass Drum 2*	35
		Bass Drum	36	36	Bass Drum 1	36
		Rim Shot	37	47	Rim Shot	37
		Snare Drum 1	38	38	Snare Drum 1	38
		Special Snare Drum	39	31	Hand Clap	39
		Snare Drum 2	40	32	Snare Drum 2	40
		Floor Tom	41	95	Floor Tom Low	41
		Splash Cymbal	42	24	Hi Hat Close	42
		Tom Low	43	41	Floor Tom High	43
		Crash Cymbal Low	44	51	Hi Hat Pedal	44
		Tom Mid	45	43	Tom Low	45
		Crash Cymbal High	46	26	Hi Hat Open	46
		Tom High	47	45	Tom Mid	47
		Hi Hat Close 1	48	48	Tom High 1	48
		Hi Hat Close 2	49	49	Crash Cymbal 1	49
		Hi Hat Open	50	50	Tom High 2	50
		Ride Bell	51	28	Ride Cymbal 1	51
		Ride Cymbal	52	52	Chinese Cymbal	52
		Conga Low	53	53	Ride Bell	53
		Small Conga Low	54	54	Tambourine	54
		Conga High	55	55	Splash Cymbal	55
		Small Conga High	56	56	Cowbell	56
		Conga Crash	57	57	Crash Cymbal 2	57
		Metal Cabasa	58	58	Vibraslap	58
		Timbales Low	59	99	Ride Cymbal 2	59
		Timbales High	60	100	Bongo High	60
		Cowbell Low	61	66	Bongo Low	61
		Cowbell High	62	62	Conga Mute Crash	62
		Agogo Low	63	102	Conga High	63
		Agogo High	64	101	Conga Low	64
		Samba Whistle Low	65	65	Timbales High	65
		Samba Whistle High	66	66	Timbales Low	66
		Claves	67	67	Agogo High	67
		Slap	68	68	Agogo Low	68
		Hand Clap	69	69	Cabasa	69
		Tambourine	70	74	Maracas	70
		Shaker	71	96	Samba Whistle Short	71
		Triangle Mute	72	106	Samba Whistle Long	72
		Maracas	73	105	Guiro Short	73
		Triangle Open	74	107	Guiro Long	74
		Guiro Short	75	77	Claves	75
		Guiro Long	76	76	Wood Block Mid	76
		Orchestral Bass Drum	77	85	Wood Block Low	77
		Orchestral Snare Drum	78	86	Cuica High	78
		Orchestral Cymbal	79	87	Cuica Low	79
		Wind Chime	80	29	Triangle Mute	80
		Scratch 1	81	118	Triangle Open	81
		Vibraslap	82	111	Shaker	82
		Scratch 2	83	119	Maracas	83

* Sounds in SEQUENCER and MIDI function.

TECHNI-CHORD TYPE

<C major chord>



♩: Played note (right-hand melody)

o: Added notes

MIDI Implementation Chart

Keyboard [SX-KN901] **(Transmitted)**

Function		RIGHT1,2,LEFT, PART4~15	PART16	ACMP1	ACMP2,3	BASS	DRUMS	CHORD	CONTROL	Remarks
Basic Channel	Default	1-16	1-16	1-16	1-16	1-16	1-16	1-16	1-16	memorized
	Changed	1-16	1-16	1-16	1-16	1-16	1-16	1-16	1-16	
Mode	Default	3	3	3	3	3	3	3	3	OMNI OFF,POLY MODE
	Messages	×	×	×	×	×	×	×	×	
	Altered	–	–	–	–	–	–	–	–	
Note Number		0-119	0-119	0-119	0-119	0-119	0-119	0-119	–	Changes depending on the position of the transpose control,octave shift,and drums type.
	True voice	–	–	–	–	–	–	–	–	
Velocity	Note ON	○	○	○	○	○	○	○	–	
	Note OFF	×	×	×	×	×	×	×	–	
After Touch	Key's	×	×	×	×	×	×	×	–	
	Ch's	×	×	×	×	×	×	×	–	
Pitch Bend		○×*	×	○×*	○×*	○×*	×	○×*	×	
Control Change	0,32	○×*	○×*	○×*	○×*	○×*	○×*	○×*	×	bank select MSB, LSB
	1	○×*	×	○×*	○×*	○×*	×	○×*	×	modulation
	6,38	○×*	×	×	×	×	×	×	×	data entry MSB, LSB
	7	○×*	○×*	○×*	○×*	○×*	○×*	○×*	×	volume
	10	○×*	×	×	×	×	×	×	×	panpot
	11	○×*	○×*	×	×	×	×	×	○×*	expression
	64	○×*	○×*	○×*	○×*	○×*	○×*	×	×	sustain
	80	×	×	○×*	×	×	×	×	×	auto play chord
	82	×	×	×	×	×	○×*	×	×	intro, fill in, ending
	91	○×*	○×*	○×*	○×*	○×*	○×*	○×*	○×*	reverb
	93	○×*	○×*	×	×	×	×	○×*	×	chorus
	94	○×*	×	○×*	○×*	○×*	×	○×*	×	digital effect
	100,101	○×*	×	×	×	×	×	×	×	RPN LSB, MSB
	120	○	○	×	×	×	×	×	×	all sound off
	121	○×*	○×*	○×*	○×*	○×*	○×*	○×*	×	reset all cotrollers
Prog Change		○×*	○×*	○×*	○×*	○×*	○×*	○×*	×	Changes depending on program change mode and prog.cng to p.mem.
	True #	–	–	–	–	–	–	–	–	
System exclusive		○								
System common	Song Pos	○×*								
	Song Sel	○×* (0-19)								
	Tune	×								
System Real Time	Clock	○								
	Commands	○×*								start/stop,continue
Aux Messages	Local ON/ OFF	×	×	×	×	×	×	×	–	
	All notes OFF	×	×	×	×	×	×	×	–	
	Active Sense	○								
	Reset	×								
Notes		○×*.....Whether or not the data for each of these items is transmitted can be set.								

Mode 1: OMNI ON, POLY Mode 2: OMNI ON, MONO ○:Yes

Mode 3: OMNI OFF, POLY Mode 4: OMNI OFF, MONO ×:No

MIDI Implementation Chart

Keyboard [SX-KN90T] (Recognized)

Function		RIGHT1,2,LEFT, PART4~15	PART16	ACMP1	ACMP2,3	BASS	DRUMS	CHORD	CONTROL	Remarks
Channel	Default	1-16	1-16	1-16	1-16	1-16	1-16	1-16	1-16	memorized
	Changed	1-16	1-16	1-16	1-16	1-16	1-16	1-16	1-16	
[illegible]	[illegible]	3	3	3	3	3	3	3	3	OMNI OFF,POLY MODE
[illegible]	Messages	×	×	×	×	×	×	×	×	
[illegible]	[illegible]	—	—	—	—	—	—	—	—	
[illegible]		0-127	0-127	0-127	0-127	0-127	0-127	0-127	—	Changes depending on the position of the transpose control,octave shift, and drums type.
Number	True voice	0-127	0-127	0-127	0-127	0-127	0-127	0-127	—	
[illegible]	Note ON	○	○	○	○	○	○	○	—	
[illegible]	Note OFF	×	×	×	×	×	×	×	—	
[illegible]	Key's	×	×	×	×	×	×	×	—	
Touch	Ch's	×	×	×	×	×	×	×	—	
Pitch Bend		○×*	×	○×*	○×*	○×*	×	○×*	×	
Control Change	0,32	○×*	○×*	○×*	○×*	○×*	○×*	○×*	×	bank select MSB, LSB
	1	○×*	×	○×*	○×*	○×*	×	○×*	×	modulation
	6,38	○×*	×	×	×	×	×	×	×	data entry MSB, LSB
	7	○×*	○×*	○×*	○×*	○×*	○×*	○×*	×	volume
	10	○×*	×	×	×	×	×	×	×	panpot
	11	○×*	○×*	×	×	×	×	×	○×*	expression
	64	○×*	○×*	○×*	○×*	○×*	○×*	×	×	sustain
	80	×	×	○×*	×	×	×	×	×	auto play chord
	82	×	×	×	×	×	○×*	×	×	intro, fill in, ending
	91	○×*	○×*	○×*	○×*	○×*	○×*	○×*	○×*	reverb
	[illegible]	○×*	○×*	×	×	×	×	○×*	×	chorus
	[illegible]	○×*	×	○×*	○×*	○×*	×	○×*	×	digital effect
	100, 101	○×*	×	×	×	×	×	×	×	RPN LSB, MSB
	120	○	○	○	○	○	○	○	×	all sound off
	121	○×*	○×*	○×*	○×*	○×*	○×*	○×*	×	reset all cotrollers
Prog Change		○×*	○×*	○×*	○×*	○×*	○×*	○×*	×	Changes depending on program change mode
	True #	0-127	0-127	0-127	0-127	0-127	0-127	0-127	—	and prog.cng to p.mem.
[illegible]					○					
[illegible]	Song Pos				○×*					
[illegible]	[illegible]				○×* (0-19)					
[illegible]	Tune				×					
[illegible]	[illegible]				○					
Real Time	Commands				○×*					start/stop,continue
Aux	Local ON/OFF	×	×	×	×	×	×	×	—	
	All notes OFF	○	○	○	○	○	○	○	—	
[illegible]	[illegible]				○					
[illegible]	[illegible]				×					

○×*.....Whether or not the data for each of these items is received can be set.

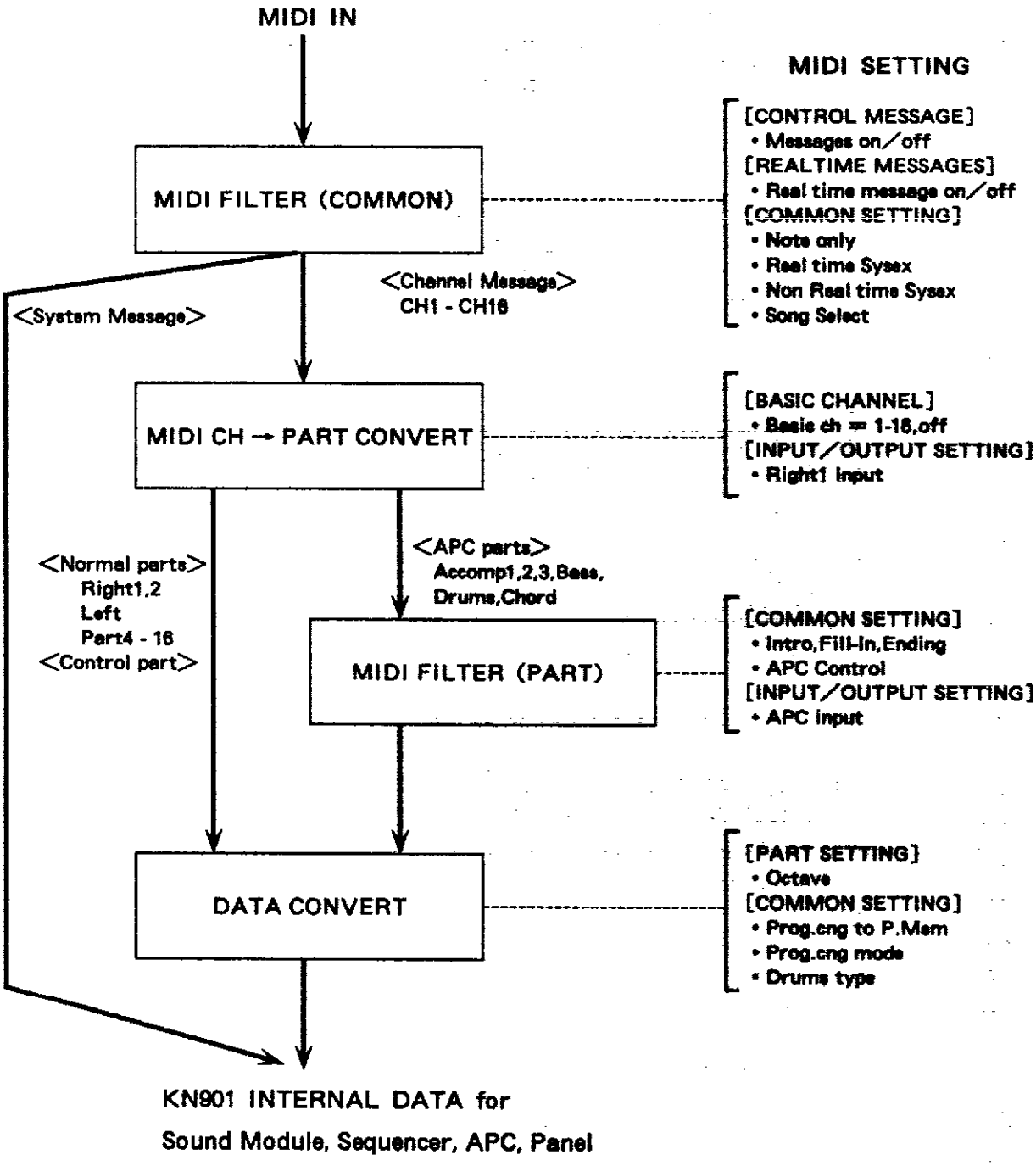
Mode 1: OMNI ON, POLY Mode 2: OMNI ON, MONO ○:Yes

Mode 3: OMNI OFF, POLY Mode 4: OMNI OFF, MONO ×:No

MIDI DATA FORMAT

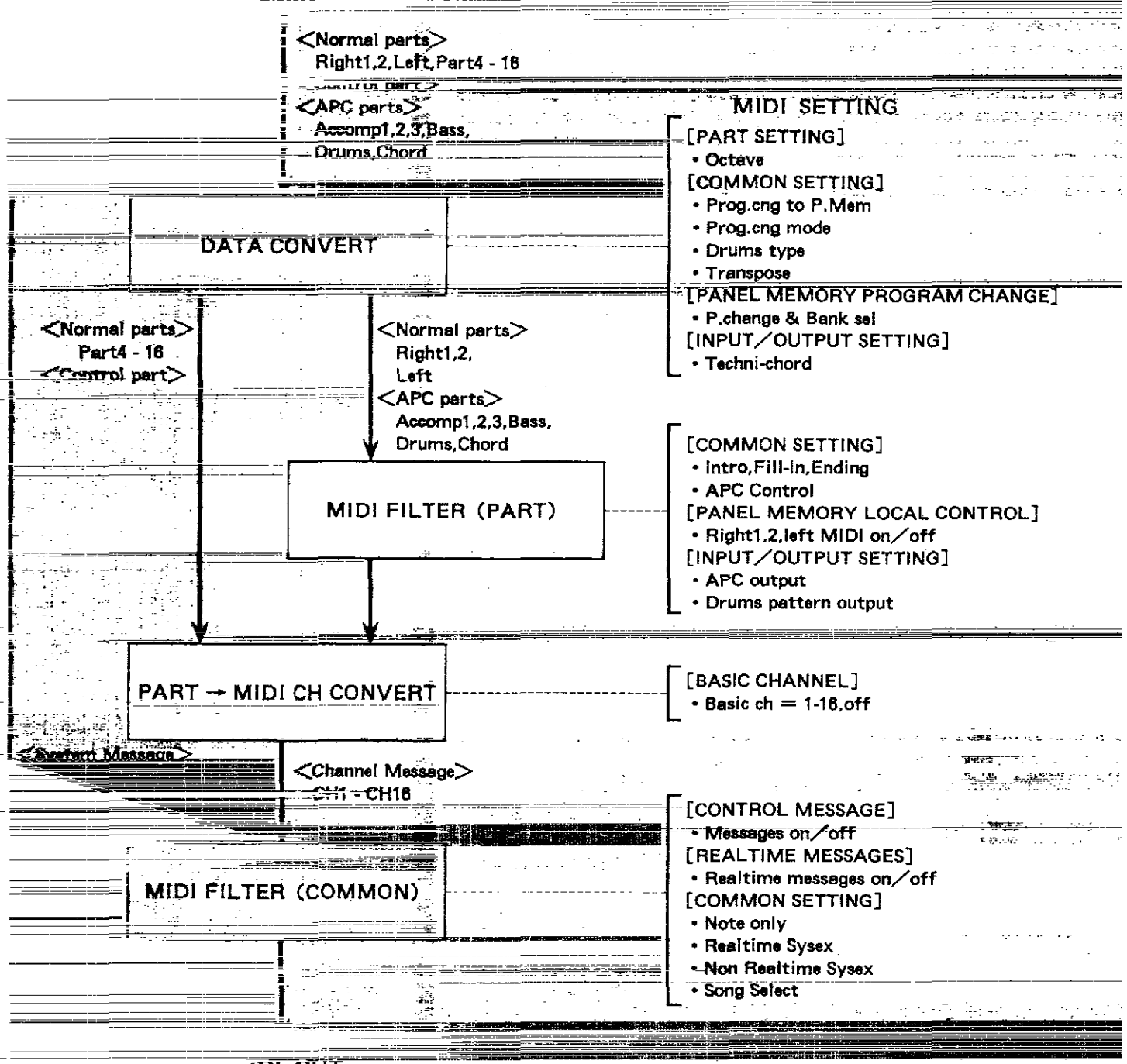
MIDI DATA FLOWCHART

<MIDI INPUT>



:DI OUTPUT >

KN901 INTERNAL DATA from
[illegible]rd, Sequencer, APC, Panel



IDI OUT

Message format

■ Channel voice message

Note off

8nH	Note off status
kk	Note number
vv	Velocity

n: 0－F Basic channel
kk: 00H－7FH Note number
vv: 00H－7FH Velocity
•This status is not used during transmission; rather, velocity＝0 is transmitted with the note on status.

Note on

9nH	Note on status
kk	Note number
vv	Velocity

n: 0－F Basic channel
kk: 00H－7FH Note number
vv: 01H－7FH Velocity
00H Note off

Control change

Bank select

BnH	Control change status
00H	Bank select (MSB)
mm	Bank select value (MSB)
(BnH)	Control change status
20H	Bank select (LSB)
ll	Bank select value (LSB)

n: 0－F Basic channel
mm,ll: 00H－7FH
•Indicates program change bank. Used when program Change mode is set to Normal mode or Technics mode.
•Transmission／reception of ACCOMP 1,2,3,BASS and DRUMS bank select is possible only during COMPOSER record.

Modulation

BnH	Control change status
01H	Modulation
vv	Modulation depth value

n: 0－F Basic channel
vv: 00H－7FH
•Reception of ACCOMP 1,2,3 and BASS modulation is possible only during COMPOSER record.

Data entry

BnH	Control change status
06H	Data entry (MSB)
mm	Data entry value (MSB)
(BnH)	Control change status
26H	Data entry (LSB)
ll	Data entry value (LSB)

n: 0－F Basic channel
mm,ll: Values conform to the parameters specified for the RPN.

Volume

BnH	Control change status
07H	Part volume
vv	Part volume value

n: 0－F Basic channel
vv: 00H－7FH

Panpot

BnH	Control change status
0AH	Panpot
vv	Panpot value

n: 0－F Basic channel
vv: 00H－7FH

Expression

BnH	Control change status
0BH	Expression
vv	Expression value

n: 0－F Basic channel
vv: 00H－7FH
•The expression for the CONTROL part is the total expression as regulated by the pedal operation.

Sustain

BnH	Control change status
40H	Sustain
vv	Sustain on／off

n: 0－F Basic channel
vv: 00H－3FH (00H) Off
40H－7FH (7FH) On
•Transmitted data is indicated by parentheses( ).
•Reception of ACCOMP 1,2,3 and BASS sustain is possible only during COMPOSER record.

Play Chord

BnH	Control change status
50H	APC message
vv	[illegible]

n = 0—F Basic channel
vv = 00H = OFF
01H = ENGINEERED
02H = ONE FINGER
03H = PIANIST
Transmitted / received on the basic channel for the AUXIMP 1 part.

Rhythm control

BnH	Control change status
52H	Rhythm control message
vv	Rhythm control data

n = 0—F Basic channel
vv = 00H = off
01H = FILL IN 1
02H = ENDING
03H = INTRO
04H = FILL IN 2
07H = JOINT INTRO
Transmitted / received on the basic channel for the DRUMS part.

Reverb

BnH	Control change status
53H	Reverb
vv	Reverb on/off (CONTROL), Depth (PART)

n = 0—F Basic channel
CONTROL: 00H—3FH (00H) Off
40H—7FH (7FH) On
PART: 00H—7FH
Transmitted data is indicated by parentheses().
The Reverb for the CONTROL part is the total

Digital effect

BnH	Control change status
5EH	Digital effect
vv	Digital effect on/off

n = 0—F Basic channel
00H—3FH (00H) Off
40H—7FH (7FH) On
Transmitted data is indicated by parentheses().
Transmission/reception of the DIGITAL EFFECT
AUXIMP 1/2/3 and BASS is possible only
AUXIMPOSER record

Chorus

BnH	Control change status
5DH	Chorus
vv	Chorus on/off

n = 0—F Basic channel
00H—7FH

RPN

BnH	Control change status
65H	RPN (MSB)
mm	RPN data number (MSB)
(BnH)	Control change status
64H	RPN (LSB)
ll	RPN data number (LSB)

n: 0—F Basic channel
mm,ll: The most significant byte (MSB) and least significant byte (LSB) of the parameter number specified for the RPN.

The RPN which can be transmitted/received are Pitch Bend Sensitivity, Fine Tuning, Coarse Tuning (corresponding respectively to the Pitch bend Range, Tuning and Key Shift of the KN901), and RPN reset.

RPN		Data Entry		
MSB	LSB	MSB	LSB	
00H	00H	mm	---	Pitch Bend Sensitivity mm:00H - 0CH (0 - 12semi-tones) ll:igored •Up to 1 octave can be specified in semi-tone increments.
00H	01H	mm	ll	Fine Tuning mm,ll:00H,00H - 40H,00H -7FH,7FH (−128 * 100/128-0-127 * 100/128cents) •ll:00H or40H (lower 6 bits ignored) •Can be specified in 100/128 cent increments.
00H	02H	mm	---	Coarse Tuning mm,34H - 40H - 4CH(−12 - 0 - +12semi-tones) ll:ignored •Up to 1 octave can be specified insemi-tone increments.
7FH	7FH	---	---	RPN Reset mm,ll:ignored •For when the RPN number is not specified. •The internal set value doesnot change.

Program change

CnH	Program change status
pp	Program change value

n: 0－F Basic channel
pp: 00H－7FH Program change value
Normal mode: Numbers are correspond to the sound number as shown on the panel list (the variation is indicated by the Bank Select).
Technics mode: Numbers are standardized among Technics modes(Bank Select also used).
GM:GM program change numbers.
•The Program Change for the Drums part is recognized as a change in the rhythm pattern select.
•Transmission／reception of ACCOMP 1,2,3,BASS, and DRUMS program change is possible only during COMPOSERrecord.
•When PROG.CNG TO P.MEM is ON, the PANEL MEMORY numbers are transmitted／received on the basic channel for the RIGHT 1 part.

Pitch bend change

EnH	Pitch bend status
ll	Pitch bend value (LSB)
mm	Pitch bend value (MSB)

n: 0－F Basic channel
ll,mm: 00H－7FH Pitch bend data
•The Pitch Bend Range is determined by the Pitch Bend Range(Pitch Bend Sensitivity)of each part.
•Reception of accomp 1,2,3 and BASS pitch bend change is possible only during COMPOSER record.

■ Channel mode message

All sound off

BnH	Channel mode status
78H	All sound off
00H	Dummy data

n: 0－F Basic channel

Reset all controllers

BnH	Channel mode status
79H	Reset all controllers
00H	Dummy data

n: 0－F Basic channel

All note off

BnH	Channel mode status
7BH	All note off
00H	Dummy data

n: 0－F Basic channel
Receive only

OMNI off

BnH	Channel mode status
7CH	OMNI off
00H	Dummy data

n: 0－F Basic channel
•Processed in same manner as when ALL Note off is received.

OMNI on

BnH	Channel mode status
7DH	OMNI on
00H	Dummy data

n: 0－F Basic channel
•Processed in same manner as when ALL Note off is received. Does not change to OMNI on.

MONO

BnH	Channel mode status
7EH	MONO
00H	Dummy data

n: 0－F Basic channel
•Processed in same manner as when ALL Note off is received. Does not change to MONO.

POLY

BnH	Channel mode status
7FH	POLY
00H	Dummy data

n: 0－F Basic channel
•Processed in same manner as when ALL Note off is received.

■ System common message

Song position pointer

F2H	Song position pointer
ll	Least significant
mm	Most significant

ll,mm: 00H - 7FH

Song select

F3H	Song select
ss	Song number

ss: 0－19

System real time message

Timing clock	
Start	
Continue	
Stop	
Active sense	

System exclusive

F0H	System exclusive status
ii	ID number
dd	data
:	:
dd	data
F7H	End of exclusive status

ii: 7EH(universal non-real time ID),
50H(Technics ID)
dd: 00H－7FH

About the KN901 MIDI exclusive

Outline of KN901 MIDI exclusive

MIDI exclusive
- Universal system exclusive
  - GM on
  - GM off
- Technics MIDI exclusive
  - transmission/reception of individual data
  - data dump
  - data request
  - transmission/reception of tempo data

Universal system exclusive Message format

Turn General MIDI System On:

F0H	Exclusive status
7EH	Universal Non-Real Time SysEx
7FH	ID of target device (7F:Broadcast)
09H	sub-ID #1 = General MIDI message
01H	sub-ID #2 = General MIDI on
F7H	EOX

Turn General MIDI System Off:

F0H	Exclusive status
7EH	Universal Non-Real Time SysEx
7FH	ID of target device (7F:Broadcast)
09H	sub-ID #1 = General MIDI message
02H	sub-ID #2 = General MIDI off
F7H	EOX

Technics MIDI exclusive Message format

Type of messages and their forms

EXA	Exclusive status
TEC	Technics ID number
CMD	Command ID
KBD	Keyboard category ID
MDL	Model differentiating ID
EXV	Exclusive version ID
[data]	Body of data
EOX	End of exclusive

Data transmission in order, beginning with SOX, TEC, etc. and continuing to the end.
The form of the transmission message differs depending on the type of command.

■ Explanation of messages

SOX: Indicates the start of exclusive

F0H	Exclusive status

IDC: Product manufacturer differentiating ID

50H	Technics ID number

CMD: Indicates type of transmission data and commands.

21H	HRQ: Hand shake request
22H	HRT: Hand shake routine
23H	ACK: Acknowledge
24H	NAK: Negative Acknowledge
25H	TMP: Tempo data
27H	EOK: End of Block
28H	END: End
29H	ERR: Error
2AH	FUL: Memory full
2BH	DRQ: Data request
2CH	ITR: Individual data
2DH	BTR: Data block
7EH	CDD: Continuing data

PC: Technics product category ID

01H	KN
7EH	DMY: Dummy data for ACK,NAK,EOK,END, ERR,FUL

MD: Model differentiating ID

00H	KN901

VER: Exclusive version control ID

10H	Ver 2.0

[data]: Body of data

•[data] for Individual data, Data dump, and Data request.

ADR	ADR(MSB)	ADDRESS MSB (7bit)
	ADR	: (7bit)
	ADR(LSB)	ADDRESS LSB (7bit)
SIZ	SIZ(MSB)	MSB of the address length of relevant data from the above address. (7bit)
	SIZ	: (7bit)
	SIZ(LSB)	LSB of the address length of relevant data from the above address. (7bit)
DT		data
:		:
CN		Continue ID
SM		Checksum

ADR :
Indicates address length of beginning data. The type of data is recognized by this value. The 21-bit address is divided into 3bytes of 7 bits each, and is sent in order beginning with the upper end. (Refer to the address map.)

SIZ :
Indicates length of address from ADR. (Refer to the address map.) The 21-bit address length is divided into 3 bytes of 7 bytes each,and is sent in order beginning with the upper end.
If a size not consistent with the data is indicated, data request is ineffective. If the data request concerns the data dump, then dummy data is sent, although it has no significance.

DT :
Body of transmitted data. The 8-bit data is divided into 2 bytes of 4 bits each, and is sent in order beginning with the upper end.
Note that SIZ = number of bytes in DT divided by 2.

CN : Indicates data continue/discontinue
00h STP : End of data
01H CNT : More data follows
(CMD of next packet is CDD)
The number of bytes in one exclusive packet is 256. In a transmission where the number of bytes exceeds one packet, CN = CNT, and the continuing data is transmitted in the continuing data (CMD = CDD) format.

SM : Checksum
Checksum for checking data errors.
Based on EXCLUSIVE-OR operation from IDC to CN.

•[data] for Tempo.

DT1	Data LSB
DT2	Data MSB

DT2, DT1 : 02H, 08H - 12H,0Ch
(♩ =40-300)
Tempo data is 9bit Binary (= 101000 ~ 100101100)
The lower 4 bits is expressed as DT1, and the remaining upper 5 bits as DT2. DT1 is sent first followed by DT2.

The form of the transmission message

Function	SOX	IDC	CMD	PC	MD	VER	[data]					EOX
	=F0H	=50H		=01H	=00H	=10H	ADR	SIZ	DT	CN	SM	=F7H
Hand shake request	SOX	IDC	HRQ	PC	MD	VER	—	—	—	—	—	EOX
Hand shake routine	SOX	IDC	HRT	PC	MD	VER	—	—	—	—	—	EOX
Ackowledge	SOX	IDC	ACK	DMY	—	—	—	—	—	—	—	EOX
Negative Ackowledge	SOX	IDC	NAK	DMY	—	—	—	—	—	—	—	EOX
End of Block	SOX	IDC	EOK	DMY	—	—	—	—	—	—	—	EOX
End	SOX	IDC	END	DMY	—	—	—	—	—	—	—	EOX
Error	SOX	IDC	ERR	DMY	—	—	—	—	—	—	—	EOX
Memory full	SOX	IDC	FUL	DMY	—	—	—	—	—	—	—	EOX
Tempo data	SOX	IDC	TMP	—	—	—	—	—	DT	—	—	EOX
Data request	SOX	IDC	DRQ	PC	MD	VER	ADR	SIZ	—	CN	SM	EOX
Individual data												
System data	SOX	IDC	ITR	PC	MD	VER	ADR	SIZ	DT	CN	SM	EOX
Part data	SOX	IDC	ITR	PC	MD	VER	ADR	SIZ	DT	CN	SM	EOX
Data dump												
Sound Memory												
header	SOX	IDC	BTR	PC	MD	VER	ADR	SIZ	DT	CN	SM	EOX
parameter	SOX	IDC	BTR	PC	MD	VER	ADR	SIZ	DT	CN	SM	EOX
Panel												
panel total data	SOX	IDC	BTR	PC	MD	VER	ADR	SIZ	DT	CN	SM	EOX
panel memory	SOX	IDC	BTR	PC	MD	VER	ADR	SIZ	DT	CN	SM	EOX
Composer												
location	SOX	IDC	BTR	PC	MD	VER	ADR	SIZ	DT	CN	SM	EOX
header	SOX	IDC	BTR	PC	MD	VER	ADR	SIZ	DT	CN	SM	EOX
performance	SOX	IDC	BTR	PC	MD	VER	ADR	SIZ	DT	CN	SM	EOX
Sequencer												
location	SOX	IDC	BTR	PC	MD	VER	ADR	SIZ	DT	CN	SM	EOX
header	SOX	IDC	BTR	PC	MD	VER	ADR	SIZ	DT	CN	SM	EOX
performance	SOX	IDC	BTR	PC	MD	VER	ADR	SIZ	DT	CN	SM	EOX
Continuing data	SOX	IDC	CDD	—	—	—	—	—	DT	CN	SN	EOX

■ MIDI exclusive address map

ADDRESS (Hex) ADR MSB~LSB	ADDRESS (21bit)	Area	Subarea	Sub-subarea
20 00 00~	080000H~	SYSTEM		REAL TIME
20 04 00~	080200H~			NON-REAL TIME
20 08 00~	080400H~	PART	COMMON	REAL TIME
20 0A 00~	080600H~			NON-REAL TIME
20 10 00~	080800H~	PART	INDIVIDUAL	PART 1 REAL TIME
20 10 40~	080840H~			PART 1 NON-REAL TIME
20 11 00~	080880H~			PART 2 REAL TIME
20 11 40~	0808C0H~			PART 2 NON-REAL TIME
:	:			
20 1n 40~	:			PART n REAL TIME
20 1n 40~	:			PART n NON-REAL TIME
:	:			:
20 1F 00~	080F80~			PART 16 REAL TIME
20 1F 40~	080FC0~			PART 16 NON-REAL TIME
20 20 00~	081000~			ACCOMP 1 REAL TIME
20 20 40~	081040~			ACCOMP 1 NON-REAL TIME
20 21 00~	081080H~			ACCOMP 2 REAL TIME
20 21 40~	0810C0H~			ACCOMP 2 NON-REAL TIME
20 22 00~	081100H~			ACCOMP 3 REAL TIME
20 22 40~	081140H~			ACCOMP 3 NON-REAL TIME
20 23 00~	081180H~			BASS REAL TIME
20 23 40~	0811C0H~			BASS NON-REAL TIME
20 24 00~	081200H~			DRUMS REAL TIME
20 24 40~	081240H~			DRUMS NON-REAL TIME
20 25 00~	081280H~			CHORD REAL TIME
20 25 40~	0812C0H~			CHORD NON-REAL TIME
20 26 00~	081300H~			R.BASS REAL TIME
20 26 40~	081340H~			R.BASS NON-REAL TIME
20 60 00~	081800H~	PART	SPECIAL	REAL TIME
20 68 00~	081A00H~			NON-REAL TIME
30 00 00~	0C0000H~	SOUND MEMORY	HEADER	NON-REAL TIME
30 00 50~	0C0050H~		PARAMETER	SOUND MEMORY 0
30 01 60~	0C00E0H~			SOUND MEMORY 1
:	:			:
30 13 60~	0C09E0H~			SOUND MEMORY 17
30 14 70~	0C0A70H~			SOUND MEMORY 18
:	:			:
	0C0050H +90H*P~			SOUND MEMORY P
:	:			:
30 26 00~	0C1400H~			SOUND MEMORY 35
				*P = 0~19
				*NON-REAL TIME
40 00 00~	100000H~	PANEL	PANEL DATA	NON-REAL TIME
41 00 00~	108000H~		PANEL MEMORY	NON-REAL TIME
50 00 00~	140000H~	COMPOSER	LOCATION	NON-REAL TIME
50 00 60~	140060H~		HEADER	NON-REAL TIME
50 0F 60~	1407E0h~		PERFORMANCE	NON-REAL TIME
60 00 00~	180000H~	SEQUENCER	LOCATION	NON-REAL TIME
60 02 00~	180100H~		HEADER	NON-REAL TIME
60 08 00~	180400H~		PERFORMANCE	NON-REAL TIME

Classification of individual data and data dump areas

Individual data area:

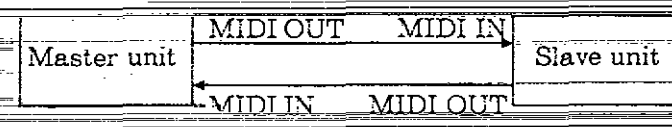
System	
Part	(Common / individual / special)
Sound Memory	(Parameter only)

Data dump area:

Sound Memory	(Header + Parameter)
Panel	(Panel data + Panel Memory)
Composer	(Location + Header + Performance)
Sequencer	(Location + Header + Performance)

One-way transmission and handshake transmission

In one-way transmission, communication takes place in one direction only, that is from the master unit to the slave unit.

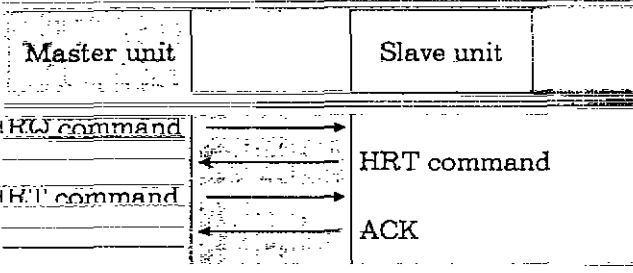


In handshake transmission, the transmission status between the master unit and slave unit is being confirmed during data transmission. For this reason, MIDI cable connection from the slave unit to the master unit is also necessary. In comparison to one-way transmission, handshake transmission is faster.

In the KN901, the transmission mode is switched automatically between handshake transmission and one-way transmission. Communication begins with handshake transmission, and if there is no response from the slave unit within a given time, communication switches automatically to one-way transmission.

Communication sequence between master unit and slave unit

Comunication sequence of handshake confirmation



HRQ command: handshake request

SOX	F0H
IDC	50H
HRQ	21H
PC	01H
MD	00H
VER	10H
EOX	F7H

HRT command: handshake routine

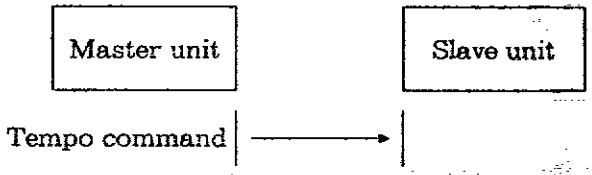
SOX	F0H
IDC	50H
HRT	22H
PC	01H
MD	00H
VER	10H
EOX	F7H

ACK: Acknowledge

SOX	F0H
IDC	50H
ACK	23H
DMY	7EH
EOX	F7H

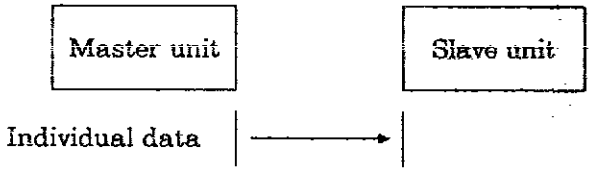
- There is no END command.
- If there is no response from the slave unit to the master unit even after the above handshake confirmation routine is performed three times, it is interpreted as inability to transmit handshake transmission data, and the transmission mode switches to one-way transmission (in the case of a MIDI sequencer, etc.).
- Handshake communication is possible only during data dump.

■ Sequence of tempo data communication



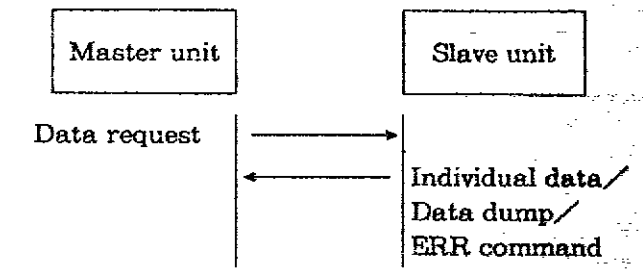
• Transmission/reception of TEMPO exclusive data can be enabled or disabled by the NOTE ONLY setting of the MIDI settings.

■ Sequence of individual data communication

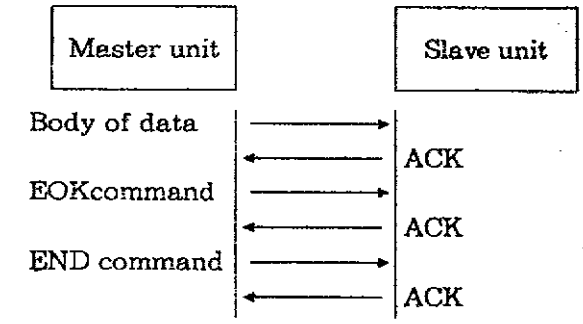


• Transmission/reception of REAL TIME and NON REAL TIME exclusive data can be enabled or disabled by the COMMON SETTING setting of the MIDI settings.

■ Sequence of data request communication



■ Sequence of data dump communication



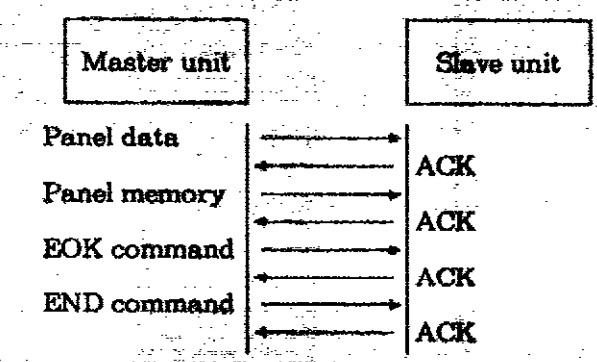
• Data dump is possible only while the SYSEX BULK DUMP display is selected during MIDI function setting.

In the KN901, data is divided into five types: ALL, PANEL, SOUND MEMORY, COMPOSER, and SEQUENCER.

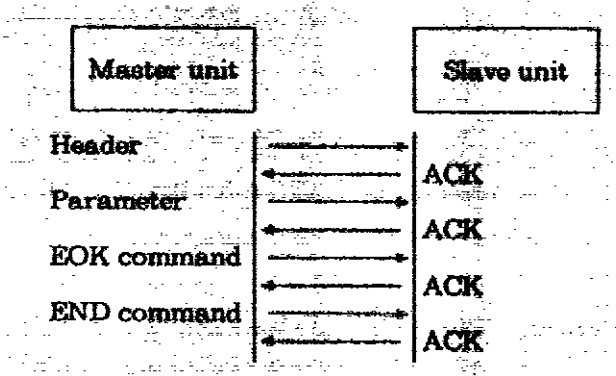
After the above handshake routine is concluded and communication link is established, the various kinds of data are respectively transmitted as described below.
For one-way transmission, the transmission interval between packets is more than 50 msec.

The number of bytes in one exclusive packet is 256. In a transmission where the number of bytes exceeds one packet, the continuing data is transmitted in the continuing data(CMD=CDD) format.

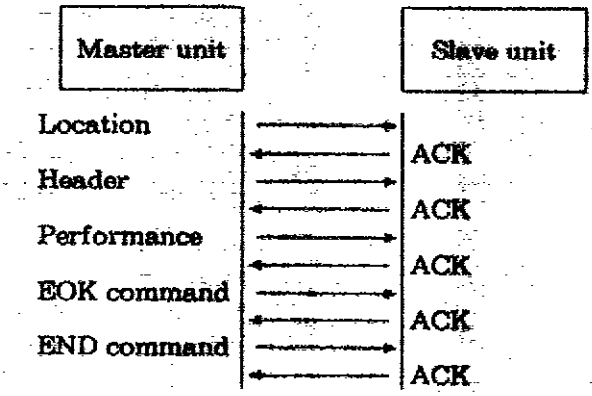
● Panel



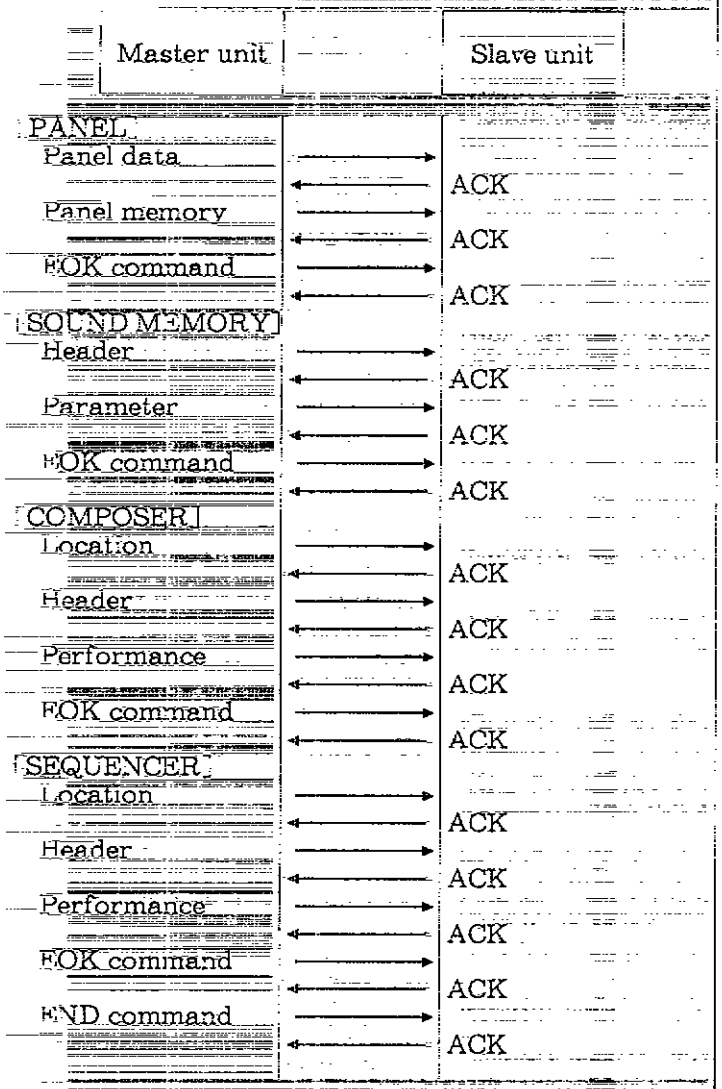
● Sound memory



● Composer data,Sequencer data



● All data



● SIZ of data dump area

SIZ MSB	SIZ LSB	Area	Subarea
00	00 50	SOUND MEMORY	HEADER
00	28 40		PARAMETER
00	08 40	PANEL	PANEL DATA
00	2A 00		PANEL MEMORY
00	00 80	COMPOSER	LOCATION
00	0F 00		HEADER
Variable			PERFORMANCE
00	02 00	SEQUENCER	LOCATION
00	06 00		HEADER
Variable			PERFORMANCE

● ADR of data request concerns the data dump

ADR MSB	ADR LSB	Area
30	00 00	SOUND MEMORY
40	00 00	PANEL
50	00 00	COMPOSER
60	00 00	SEQUENCER

SYSTEM AND PART PARAMETER

ADR(HEX) MSB	ADR(HEX) LSB	SIZ(HEX) MSB	SIZ(HEX) LSB	PARAMETER	DATA(HEX) RANGE	DISCRIPTION	NOTE *1
SYSTEM REAL TIME							
20 00 00		00 00 01		MASTER TUNING	00-00-3F	427.3-440.0-453.0	
20 00 01		00 00 01		SCALE TYPE	00-01	00H:Equal Temperament, 01H:Piano Tuning	GR
20 00 02		00 00 01		TRANSPOSE	00-05-0B	G-C-F#	GR
20 00 03		00 00 01		OVERALL TOUCH SENSITIVITY	00-09	0-9	GRT GR
20 00 10		00 00 01		PANEL MEMORY NUMBER	00-0A	Off, A-1, A-2, ・・・,B-5	
20 00 11		00 00 01		PANEL MEMORY EXPAND MODE	00-01	00H:Normal, 01H:Expand	GRT
20 00 12		00 00 01		MUSIC STYLE ARRANGER STYLE	00-03	00H:Off, 01H-03H:1-3	GR
20 00 13		00 00 01		MUSIC STYLE ARRANGER MODE	00-03	00H:Sound, 01H:Rhythm 02H:Sound&Rhythm 03H:Panel Memory	GRT GR
20 00 20		00 00 02		MANUAL SEQUENCE PADS	00-7F	0-127	RT
				CNG&BANK SELECT	00-FF	0-255	
SYSTEM NON-REAL TIME							
20 04 00		00 00 01		NON-REAL TIME SYSEX ENABLE	00-01	00H:Off, 01H:On	GR *2
20 04 01		00 00 01		REAL TIME SYSEX ENABLE	00-01	00H:Off, 01H:On	GR *2
20 04 02		00 00 01		REAL TIME COMMAND ENABLE	00-01	00H:Off, 01H:On	GR
20 04 03		00 00 01		CLOCK SELECT	00-01	00H:Internal, 01H:MIDI	GR
20 04 04		00 00 01		SONG SELECT ENABLE	00-01	00H:Off, 01H:On	GR
PART COMMON REAL TIME							
20 08 00		00 00 01		TOTAL EXPRESSION	00-7F	0-127	GRT
20 08 08		00 00 01		TECHNI-CHORD ON/OFF	00-01	00H:Off, 01H:On	GRT
20 08 09		00 00 01		TECHNI-CHORD TYPE	00-0C	00H:Close, 07H:Block 01H:Open1, 08H:Big Band Brass 02H:Open2, 09H:Big Band Reeds 03H:Duet, 0AH:Octave 04H:Country, 0BH:Hard Rock 05H:Theatre, 0CH:Fanfare 06H:Hymn	GR
20 08 10		00 00 01		REVERB TOTAL ON/OFF	00-7F	00H:Off, 7FH:On	GRT
20 08 11		00 00 01		REVERB TYPE	00-08	00H:Room1, 01H:Room2, 02H:Hall1, 03H:Hall2, 04H:Hall3, 08H:Echo	GR
20 08 12		00 00 01		REVERB DEPTH	00-07	1-8	GR
PART COMMON NON-REAL TIME							
20 0A 00		00 00 01		PROG.CHANGE ENABLE	00-01	00H:Off, 01H:On	GR
20 0A 01		00 00 01		BANK SELECT ENABLE	00-01	00H:Off, 01H:On	GR
20 0A 02		00 00 01		PITCH BEND ENABLE	00-01	00H:Off, 01H:On	GR
20 0A 03		00 00 01		VOLUME ENABLE	00-01	00H:Off, 01H:On	GR
20 0A 04		00 00 01		EXPRESSION ENABLE	00-01	00H:Off, 01H:On	GR
20 0A 05		00 00 01		PAN ENABLE	00-01	00H:Off, 01H:On	GR
20 0A 06		00 00 01		SUSTAIN ENABLE	00-01	00H:Off, 01H:On	GR
20 0A 07		00 00 01		EFFECT&REVERB ENABLE	00-01	00H:Off, 01H:On	GR
20 0A 08		00 00 01		MODULATION ENABLE	00-01	00H:Off, 01H:On	GR
20 0A 09		00 00 01		TUNING ENABLE	00-01	00H:Off, 01H:On	GR
20 0A 0A		00 00 01		BEND RANGE ENABLE	00-01	00H:Off, 01H:On	GR
20 0A 0B		00 00 01		RESET ALL CONTROLLERS ENABLE	00-01	00H:Off, 01H:On	GR
20 0A 0C		00 00 01		APC MODE ENABLE	00-01	00H:Off, 01H:On	GR
20 0A 0D		00 00 01		FILL IN, INTRO, ENDING ENABLE	00-01	00H:Off, 01H:On	GR
20 0A 0E		00 00 01		NOTE ONLY	00-01	00H:Off, 01H:On	GR
20 0A 20		00 00 01		P.MEM TO PROG.CNG	00-01	00H:Off, 01H:On	GR
20 0A 21		00 00 01		TRANSPOSE OUT	00-01	00H:Off, 01H:On	GR
20 0A 22		00 00 01		PROG. CHANGE MODE	00-03	00H:Norm, 01H:Technic, 03:GM	GR
20 0A 23		00 00 01		DRUMS TYPE	00-03	00H:Norm, 01H:Technic, 03:GM	GR
20 0A 24		00 00 01		RIGHT1 INPUT	00-01	00H:Conductor, 01H:Direct	GR
20 0A 25		00 00 01		AUTO PLAY CHORD INPUT	00-01	00H:Off, 01H:On	GR
20 0A 26		00 00 01		TECHNI-CHORD OUTPUT	00-01	00H:Off, 01H:On	GR
20 0A 27		00 00 01		AUTO PLAY CHORD OUTPUT	00-01	00H:Off, 01H:On	GR
20 0A 28		00 00 01		DRUMS PATTERN OUTPUT	00-01	00H:Off, 01H:On	GR

GENERAL MIDI SETTINGS

■ SOUND

P.CNG#	SOUND NAME		P.CNG#	SOUND NAME		P.CNG#	SOUND NAME		P.CNG#	SOUND NAME	
1	Piano	(1)	33	Acoustic Bass	(1)	65	Soprano Sax	(1*)	97	Ice Rain	(2*)
2	Bright Piano	(1)	34	Bright E.Bass	(1)	66	Alto Sax	(1*)	98	Soundtrack	(2)
3	Elect. Grand	(1*)	35	Picked E.Bass	(1)	67	Tenor Sax	(1*)	99	Synth Glocken	(2*)
4	Honky Tonk	(2*)	36	Fretless Bass	(2)	68	Baritone Sax	(1*)	100	Atmosphere	(2*)
5	E.Piano 1	(2)	37	Slap Bass 1	(1)	69	Oboe	(1)	101	Mist	(2*)
6	Modern E.P.1	(2*)	38	Slap Bass 2	(2)	70	English Horn	(1)	102	Goblins	(2*)
7	Harpsichord	(1)	39	Wow Bass	(1)	71	Bassoon	(1)	103	Click Echo	(2*)
8	Clavi	(1)	40	Synth Chopper	(1)	72	Jazz Clarinet	(1*)	104	Star Theme	(2*)
9	Celesta	(2*)	41	Violin	(1)	73	Piccolo	(1)	105	Sitar	(2*)
10	Glockenspiel	(1*)	42	Viola	(1*)	74	Jazz Flute	(1*)	106	Banjo	(1*)
11	Music Box	(1)	43	Cello	(1)	75	Recorder	(1)	107	Shamisen	(1)
12	Vibraphone	(2)	44	Bowed Bass	(1)	76	Pan Flute	(1*)	108	Koto	(1)
13	Marimba	(2)	45	TremoloString	(2)	77	Blown Bottle	(2*)	109	Kalimba	(1*)
14	Xylophone	(1*)	46	Pizzicato	(2)	78	Shakuhachi	(1*)	110	Bagpipe	(2)
15	Tubular Bells	(2)	47	Harp	(1*)	79	Whistle	(1)	111	CountryFiddle	(2)
16	Dulcimer	(2*)	48	Timpani	(1)	80	Ocarina	(1)	112	Shanai	(2*)
17	Full Drawbars	(2)	49	Strings	(1)	81	Square Lead	(2)	113	Tinkle Bell	(2)
18	Jazz Organ	(2)	50	Slow Strings	(1)	82	Saw Lead	(2)	114	Agogo	(1)
19	Rock Organ	(2*)	51	SynthStrings1	(2*)	83	SynthCalliope	(2*)	115	Steel Drum	(1*)
20	Pipe Organ 1	(2)	52	SynthStrings2	(2*)	84	Chiffer Lead	(2*)	116	Wood Block	(1)
21	Harmonium	(2)	53	Vocal Ah	(1)	85	Charang	(2*)	117	Taiko Drum	(1)
22	Bri. Accordion	(2)	54	Vocal Doo	(2)	86	Air Vox	(2*)	118	Melodic Tom	(1)
23	Harmonica	(1)	55	Synth Vocal	(1*)	87	8th Wave	(2)	119	Synth Drum	(1)
24	Bandoneon	(2)	56	Orchestra Hit	(1)	88	Bass & Lead	(2)	120	ReverseCymbal	(1)
25	Spanish Gtr	(1)	57	Trumpet	(1)	89	Fantasia	(2*)	121	Fret Noise	(1)
26	Folk Guitar	(1*)	58	Trombone	(1)	90	Mellow Ens.	(2*)	122	Breath Noise	(1)
27	Jazz Guitar 1	(1*)	59	Tuba	(1)	91	Polysynth	(2*)	123	Seashore	(1)
28	Bright Solid	(2*)	60	Mute Trumpet	(1)	92	Spacy Pad	(2)	124	Bird Tweet	(2)
29	Mute Guitar	(2*)	61	Open Fr.Horn	(1)	93	Crystal Ens.	(2*)	125	Telephone	(1)
30	Overdrive Gtr	(2*)	62	Brass	(1)	94	Metal Pad	(2)	126	Helicopter	(2)
31	DistortionGtr	(2*)	63	Syn.Brass Ens	(2)	95	Halo Pad	(2*)	127	Applause	(1)
32	Gtr Harmonics	(2*)	64	Synth Brass	(2*)	96	Sweep Pad	(2*)	128	Gun Shot	(1)

( )=Number of Tones

* =SUB Tone is used. Depending on the sound output status of the instrument, it may be generated.

■ Parts

MIDI CHANNEL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PART	R1	R2	L	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15	P16
SEQUENCER TRACK	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

■ Non-working Function

DEMO,RHYTHM,ONE TOUCH PLAY, MUSIC STYLE ARRANGER,
PANEL MEMORY, TECHNI-CHORD, AUTO PLAY CHORD,
COMPOSER, SOUND ARRANGER, SOUND EDIT etc.

GENERAL MIDI SETTINGS

SOUND

P.CNG #	SOUND NAME		P.CNG #	SOUND NAME		P.CNG #	SOUND NAME		P.CNG #	SOUND NAME	
1	Piano	(1)	33	Acoustic Bass	(1)	65	Soprano Sax	(1*)	97	Ice Rain	(2*)
2	Bright Piano	(1)	34	Bright E.Bass	(1)	66	Alto Sax	(1*)	98	Soundtrack	(2)
3	Elect. Grand	(1*)	35	Picked E.Bass	(1)	67	Tenor Sax	(1*)	99	Synth Glocken	(2*)
4	Honky Tonk	(2*)	36	Fretless Bass	(2)	68	Baritone Sax	(1*)	100	Atmosphere	(2*)
5	E.Piano 1	(2)	37	Slap Bass 1	(1)	69	Oboe	(1)	101	Mist	(2*)
6	Modern E.P.1	(2*)	38	Slap Bass 2	(2)	70	English Horn	(1)	102	Goblins	(2*)
7	Harpsichord	(1)	39	Wow Bass	(1)	71	Bassoon	(1)	103	Click Echo	(2*)
8	Clavi	(1)	40	Synth Chopper	(1)	72	Jazz Clarinet	(1*)	104	Ster Theme	(2*)
9	Celeste	(2*)	41	Violin	(1)	73	Piccolo	(1)	105	Sitar	(2*)
10	Glockenspiel	(1*)	42	Viola	(1*)	74	Jazz Flute	(1*)	106	Banjo	(1*)
11	Music Box	(1)	43	Cello	(1)	75	Recorder	(1)	107	Shamisen	(1)
12	Vibraphone	(2)	44	Bowed Bass	(1)	76	Pan Flute	(1*)	108	Koto	(1)
13	Marimba	(2)	45	TremoloString	(2)	77	Blown Bottle	(2*)	109	Kalimba	(1*)
14	Xylophone	(1*)	46	Pizzicato	(2)	78	Shakuhachi	(1*)	110	Bagpipe	(2)
15	Tubular Bells	(2)	47	Harp	(1*)	79	Whistle	(1)	111	CountryFiddle	(2)
16	Dulcimer	(2*)	48	Timpani	(1)	80	Ocarina	(1)	112	Shanai	(2*)
17	Full Drawbars	(2)	49	Strings	(1)	81	Square Lead	(2)	113	Tinkle Bell	(2)
18	Jazz Organ	(2)	50	Slow Strings	(1)	82	Saw Lead	(2)	114	Agogo	(1)
19	Rock Organ	(2*)	51	SynthStrings1	(2*)	83	SynthCalliope	(2*)	115	Steel Drum	(1*)
20	Pipe Organ 1	(2)	52	SynthStrings2	(2*)	84	Chiffer Lead	(2*)	116	Wood Block	(1)
21	Harmonium	(2)	53	Vocal Ah	(1)	85	Charang	(2*)	117	Taiko Drum	(1)
22	Brt. Accordion	(2)	54	Vocal Doo	(2)	86	Air Vox	(2*)	118	Melodic Tom	(1)
23	Harmonica	(1)	55	Synth Vocal	(1*)	87	5th Wave	(2)	119	Synth Drum	(1)
24	Bandoneon	(2)	56	Orchestra Hit	(1)	88	Bass & Lead	(2)	120	ReverseCymbal	(1)
25	Spanish Gtr	(1)	57	Trumpet	(1)	89	Fantasia	(2*)	121	Fret Noise	(1)
26	Folk Guitar	(1*)	58	Trombone	(1)	90	Mellow Ens.	(2*)	122	Breath Noise	(1)
27	Jazz Guitar 1	(1*)	59	Tuba	(1)	91	Polysynth	(2*)	123	Seashore	(1)
28	Bright Solid	(2*)	60	Mute Trumpet	(1)	92	Spacy Pad	(2)	124	Bird Tweet	(2)
29	Mute Guitar	(2*)	61	Open Fr.Horn	(1)	93	Crystal Ens.	(2*)	125	Telephone	(1)
30	Overdrive Gtr	(2*)	62	Brass	(1)	94	Metal Pad	(2)	126	Helicopter	(2)
31	DistortionGtr	(2*)	63	Syn.Brass Ens	(2)	95	Halo Pad	(2*)	127	Applause	(1)
32	Gtr Harmonics	(2*)	64	Synth Brass	(2*)	96	Sweep Pad	(2*)	128	Gun Shot	(1)

Number of Tones

IR Tone is used. Depending on the sound output status of the instrument.

It may be generated.

Parts

MIDI CHANNEL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PART	R1	R2	L	P4	P5	P6	P7	P8	P9	P16	P11	P12	P13	P14	P15	P10
RENDER RACK	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Non-working Function

DIGITAL RHYTHM ONE TOUCH PLAY MUSIC STYLE ARRANGER

PANEL MEMORY TECHNI-CHORD AUTO PLAY CHORD

MIXER SOUND ARRANGER SOUND EDIT etc.

ADR(HEX) MSB	ADR(HEX) LSB	SIZ(HEX) MSB	SIZ(HEX) LSB	PARAMETER	DATA(HEX) RANGE	DISCRIPTION	NOTE *1
PART INDIVIDUAL REAL TIME							
n= 0 - F : NORMAL PART NUMBER (PART1 - PART16) *PART1=RIGHT1, PART2=RIGHT2, PART3=LEFT, PART16=DRUMS							
20	1n	00	00 02	SOUND PROG. CNG & Bank select	00-7F 00-FF	0-127 0-255	QR *3
20	1n	02	00 00 01	VOLUME	00-7F	0-127	QR
20	1n	03	00 00 01	SUSTAIN DEPTH	00-07	1-8	QR
20	1n	04	00 00 01	SUSTAIN	00-7F	00H:Off, 7FH:On	QR
20	1n	06	00 00 01	DIGITAL EFFECT	00-7F	00H:Off, 7FH:On	QR
20	1n	07	00 00 01	REVERB	00-7F	00H:Off, 7FH:On	QR
20	1n	08	00 00 01	PAN	00-7F	0-127	QR
20	1n	09	00 00 01	BEND RANGE	00-0C	0-12	QR
20	1n	0A	00 00 01	TUNING	00-80-FF	−128-0-+127	QR
20	1n	0B	00 00 01	KEY SHIFT	34-00-4C	−12-0-+12	QR
m= 0 - 6 : APC PART NUMBER (ACCOMP1, ACCOMP2, ACCOMP3, BASS, DRUMS, CHORD, R.BASS)							
20	2m	02	00 00 01	VOLUME	00-7F	0-127	QR
20	2m	07	00 00 01	REVERB	00-7F	00H:Off, 7FH:On	QR
PART INDIVIDUAL NON-REAL TIME							
20	1n	40	00 00 01	BASIC CHANNEL	00-0F	1-16	QR
20	1n	41	00 00 01	MIDI OCTAVE SHIFT	00-03-06	−3-0-+3	QR
20	1n	42	00 00 01	LOCAL OFF SETTING	00-01	00H:Local On, 01H:Local Off	QR
20	1n	43	00 00 01	MIDI OUT DISABLE	00-01	00H:MIDI Channel On, 01H:MIDI Channel Off	QR
20	2m	40	00 00 01	BASIC CHANNEL	00-0F	1-16	QR *4
20	2m	41	00 00 01	MIDI OCTAVE SHIFT	00-03-06	−3-0-+3	QR *4
20	2m	42	00 00 01	LOCAL OFF SETTING	00-01	00H:Off, 01H:On	QR *4
20	2m	43	00 00 01	MIDI OUT DISABLE	00-01	00H:Off, 01H:On	QR *4
PART SPECIAL REAL TIME							
20	60	00	00 00 02	RHYTHM PROG. CNG & Bank Select	00-7F 00-FF	0-127 0-255	QRT *5
20	60	02	00 00 01	APC TYPE	00-03	00H:Off 01H:One Finger 02H:Fingered 03H:Pianist	QRT *6
20	60	03	00 00 01	APC MEMORY ON/OFF	00-01	00h:Off, 01H:On	QRT *6
20	60	08	00 00 01	SYNCHRO/BREAK	00-01	00h:Off, 01H:On	QRT *7
20	60	09	00 00 01	VARIATION	00-01	00h:Off, 01H:On	QRT *7
20	60	0A	00 00 01	INTRO 1	00-01	00h:Off, 01H:On	RT *7
20	60	0B	00 00 01	COUNT INTRO	00-01	00h:Off, 01H:On	RT *7
20	60	0C	00 00 01	FILL IN 1	00-01	00h:Off, 01H:On	RT *7
20	60	0D	00 00 01	FILL IN 2	00-01	00h:Off, 01H:On	RT *7
20	60	0E	00 00 01	ENDING 1	00-01	00h:Off, 01H:On	RT *7

*1 Q: When Data Request is received, the relevant data is sent.
R: Data reception possible.
T: Data transmission possible.

*2 Invariably transmitted/received,regardless of REAL TIME SYSEX ENABLE and NON-REAL TIME SYSEX ENABLE settings.

*3 Corresponds to Technics numbers on the sound map.

*4 ROOT BASS PART cannot be set.

*5 Corresponds to Technics numbers on the rhythm map.

*6 Not transmitted/received when APC MODE ENABLE = 0 (disable) .

*7 Not transmitted/received when FILL IN, INTRO ENABLE = 0(disable) .

MIDI PRESET DATA

		Without APC																
Preset No.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Master						KN901					Organ		Keyboard		PR Piano		PX Piano	Ext SEQ
Slave		Organ		Keyboard		PR Piano		PX Piano	Sound module	Ext SEQ	type1	type2	type1	type2	type1	type2		
		type1	type2	type1	type2	type1	type2				KN901							
Basic	Right1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Right2	3	3	2	2	3	2	off	2	2	3	3	2	2	3	2	2	2
	Left	2	2	4	3	2	3	off	3	3	2	2	4	3	2	3	3	3
	Part4	4	4	3	4	4	4	off	4	4	4	4	3	4	4	4	4	4
	Part5	5	5	5	5	5	5	off	5	5	5	5	5	5	5	5	5	5
	Part6	6	6	6	6	6	6	off	6	6	6	6	6	6	6	6	6	6
	Part7	7	7	7	7	7	7	off	7	7	7	7	7	7	7	7	7	7
	Part8	8	8	8	8	8	8	off	8	8	8	8	8	8	8	8	8	8
	Part9	9	9	9	9	9	9	off	9	9	9	9	9	9	9	9	9	9
	Part10	10	10	10	10	10	10	off	10	10	10	10	10	10	10	10	10	10
	Part11	11	11	11	11	11	11	off	11	11	11	11	11	11	11	11	11	11
	Part12	12	12	12	12	12	12	off	12	12	12	12	12	12	12	12	12	12
	Part13	13	13	13	13	13	13	off	13	13	13	13	13	13	13	13	13	13
	Part14	14	14	14	14	14	14	off	14	14	14	14	14	14	14	14	14	14
	Part15	off	off	off	15	off	15	off	15	15	off	off	off	15	off	15	15	15
	Part16	15	16	15	16	15	16	off	16	16	15	16	15	16	15	16	16	16
	Control	16	15	16	off	16	off	off	off	off	16	15	16	off	16	off	off	off
	Accomp1	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off
	Accomp2	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off
	[illegible]	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off
	[illegible]	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off
	Drums	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off
	Chord	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off
Octave all ch.		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local all ch.		on	on	on	on	on	on	on	on	on	on	on	on	on	on	on	on	on
Program change		on	on	on	on	on	on	on	on	on	on	on	on	on	on	on	on	on
Bank select		on	on	on	on	on	on	on	on	on	on	on	on	on	on	on	on	on
Pitch Bend		on	on	on	on	on	on	on	on	on	on	on	on	on	on	on	on	on
Volume		on	on	on	on	on	on	on	on	on	on	on	on	on	on	on	on	on
Expression		on	on	on	on	on	on	on	on	on	on	on	on	on	on	on	on	on
Panpot		on	on	on	on	on	on	on	on	on	on	on	on	on	on	on	on	on
Sustain		on	on	on	on	on	on	on	on	on	on	on	on	on	on	on	on	on
Effect/Reverb		on	on	on	on	on	on	on	on	on	on	on	on	on	on	on	on	on
Modulation		on	on	on	on	on	on	on	on	on	on	on	on	on	on	on	on	on
Tuning		on	on	on	on	on	on	on	on	on	on	on	on	on	on	on	on	on
Bend range		on	on	on	on	on	on	on	on	on	on	on	on	on	on	on	on	on
Reset all cnt.		on	on	on	on	on	on	on	on	on	on	on	on	on	on	on	on	on
Realtime message		on	on	on	on	on	on	on	on	on	on	on	on	on	on	on	on	off
Clock		int	int	int	int	int	int	int	int	int	int	int	int	int	int	int	int	ext
Right input mode		dir	dir	dir	dir	dir	dir	dir	dir	dir	dir	dir	dir	dir	dir	dir	cndct	dir
[illegible]																		
Auto input		off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off
Multi-chord out		off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off
Drums out		off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off
[illegible]		off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off
Panel mem control		off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off
[illegible] to P mem		off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off
Note only		off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off
Realtime sysex		off	off	off	on	off	off	off	on	on	off	off	off	on	off	off	off	on
Non real sysex		off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off
Intro/Fill		on	on	on	on	on	on	on	on	on	on	on	on	on	on	on	on	on
APC control		off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off
Transpose		off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off
Program chg mode		TECH	TECH	TECH	TECH	TECH	TECH	Norm	GM	TECH	TECH	TECH	TECH	TECH	TECH	TECH	Norm	TECH
Drums type		TECH	TECH	TECH	TECH	TECH	TECH	Norm	GM	TECH	TECH	TECH	TECH	TECH	TECH	TECH	Norm	TECH
Song select		on	on	on	on	on	on	on	on	on	on	on	on	on	on	on	on	on

: setting used when the connected equipment does not have the MIDI PRESETS capability.

: setting used when the connected equipment has the MIDI PRESETS capability, and the MIDI PRESETS are specified both on this instrument and on the connected equipment.

MIDI PRESET DATA

		With APC															
Preset No.		18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
Master ↓ Slave		KN901 ↓ Organ type1	Organ type2	Keyboard type1	Keyboard type2	PR Piano type1	PR Piano type2	Sound module	Ext SEQ	Organ type1	Organ type2	Keyboard type1	Keyboard type2 ↓ KN901	PR Piano type1	PR Piano type2	PX Piano	Ext SEQ
Basic channel	Right1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	off	1
	Right2	3	3	2	2	3	2	2	2	3	3	2	2	3	2	2	2
	Left	2	2	4	3	2	3	3	3	2	2	4	3	2	3	3	3
	Part4	4	4	3	4	4	4	4	4	4	4	3	4	4	4	4	4
	Part5	off	off	off	off	off	off	5	5	5	off	off	off	off	off	5	5
	Part6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
	Part7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
	Part8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
	Part9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
	Part10	10	10	10	10	10	10	off	10	10	10	10	10	10	10	10	10
	Part11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
	Part12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
	Part13	13	13	13	13	13	13	off	13	13	13	13	13	13	13	13	13
	Part14	14	14	14	14	14	14	off	14	14	14	14	14	14	14	14	14
	Part15	off	off	off	15	off	15	off	off	off	off	off	15	off	15	15	off
	Part16	off	off	off	off	off	off	off	off	off	off	off	off	off	off	16	off
	Control	16	15	16	off	16	off	off	off	16	15	16	off	16	off	off	off
	Accomp1	off	off	off	off	off	off	13	off	off	off	off	off	off	off	off	off
	Accomp2	off	off	off	off	off	off	14	off	off	off	off	off	off	off	off	off
	Accomp3	off	off	off	off	off	off	15	off	off	off	off	off	off	off	off	off
	Bass	off	off	off	off	off	off	16	off	off	off	off	off	off	off	off	off
	Drums	15	16	15	16	15	16	16	16	15	16	16	16	16	16	off	16
	Chord	5	5	5	5	5	5	off	15	2	5	5	5	5	5	1	15
Octave all ch.		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local all ch.		on	on	on	on	on	on	on	on	on	on	on	on	on	on	on	on
Program change		on	on	on	on	on	on	on	on	on	on	on	on	on	on	on	on
Bank select		on	on	on	on	on	on	on	on	on	on	on	on	on	on	on	on
Pitch Bend		on	on	on	on	on	on	on	on	on	on	on	on	on	on	on	on
Volume		on	on	on	on	on	on	on	on	on	on	on	on	on	on	on	on
Expression		on	on	on	on	on	on	on	on	on	on	on	on	on	on	on	on
Panpot		on	on	on	on	on	on	on	on	on	on	on	on	on	on	on	on
Sustain		on	on	on	on	on	on	on	on	on	on	on	on	on	on	on	on
Effect/Reverb		on	on	on	on	on	on	on	on	on	on	on	on	on	on	on	on
Modulation		on	on	on	on	on	on	on	on	on	on	on	on	on	on	on	on
Tuning		on	on	on	on	on	on	on	on	on	on	on	on	on	on	on	on
Bend range		on	on	on	on	on	on	on	on	on	on	on	on	on	on	on	on
Reset all cnt.		on	on	on	on	on	on	on	on	on	on	on	on	on	on	on	on
Realtime message		on	on	on	on	on	on	on	on	on	on	on	on	on	on	on	off
Clock		int	int	int	int	int	int	int	int	ext	ext	ext	ext	ext	ext	int	ext
Right input mode (direct or single)		dir	dir	dir	dir	dir	dir	dir	dir	dir	dir	dir	dir	dir	dir	ondet	dir
APC input		on	on	on	on	on	on	off	off	on	on	on	on	on	on	on	on
Techni-chord out		off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off
Drums out		off	off	off	off	off	off	on	off	off	off	off	off	off	off	off	off
APC out		on	on	on	on	on	on	on	on	on	on	on	on	on	on	on	on
Panel mem control		off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off
P.cng to P.mem		off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off
Note only		off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off
Realtime sysex		off	off	off	on	off	off	on	on	off	off	off	on	off	off	off	on
Non real sysex		off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off
Intro/Fill		on	on	on	on	on	on	on	on	on	on	on	on	on	on	on	on
APC control		on	on	on	on	on	on	on	on	on	on	on	on	on	on	on	on
Transpose		off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off
Program cng mode		TECH	TECH	TECH	TECH	TECH	TECH	GM	TECH	TECH	TECH	TECH	TECH	TECH	TECH	Norm	TECH
Drums type		TECH	TECH	TECH	TECH	TECH	TECH	GM	TECH	TECH	TECH	TECH	TECH	TECH	TECH	Norm	TECH
Song select		on	on	on	on	on	on	on	on	on	on	on	on	on	on	on	on

type1 : Setting used when the connected equipment does not have the MIDI PRESETS capability.

type2 : Setting used when the connected equipment has the MIDI PRESETS capability, and the MIDI PRESETS are specified both on this instrument and on the connected equipment.

OOCG02BZA
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